BULLETIN

MADRAS DEVELOPMENT SEMINAR SERIES

VOLUME IV NUMBER 3 MARCH 1974

74, SECOND MAIN ROAD, GANDHINAGAR,
ADYAR, MADRAS - 600020.

MONTHLY BULLETIN

Vol. IV No. 3

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EDITORIAL—SOME HIGHLIGHTS

I. General Economic Scene

State :

Fifth Plan : The State government has drafted the Fifth Plan in the State sector at Rs. 1,214.26 crores as reported in Vol. IV pages 1 & 2. Its finalisation awaits the next meeting of the National Development Council in late February when the total outlay on the basis of 1973-74 prices, the quantum and pattern of "Central assistance" to the State and the additional resources mobilisation effort to be made by the State will be known and decided. These three elements are the further elements on which the Fifth Plan for Tamil Nadu will be finally established. The Sixth Finance Commission has fixed the non-plan resources that will be available to the State (See last issue, Vol. IV pages 101-104). The current level of resources raised by the State will supplement these accruals to meet our non-plan expenditure. The resources that will have to be raised over and above this for plan purposes will be decided after the NDC meeting—when the Central assistance is matched to the plan needs as set forth by State Planning Commission in its proposal (See Vol. III pages 307-308) and approved by the government (See Vol. III pages 613-615).

Annual Plan 1974-1975 : January saw the start of negotiations between the State government and the Union Planning Commission with regard to the Plan for the first year of the Fifth Plan, 1974-75. The State government presented the First Year Plan at Rs. 165.87 crores. The Union Planning Commission's initial reaction was to cut back the Plan by about 33 1/3 per cent to Rs. 108.8 crores. The cuts proposed covered all sectors—the so called core sectors as well as the non-core sectors. For the Union Planning Commission, the core sector covers agriculture, irrigation, power and basic industries. But the cuts proposed in the State's first year (Annual) Plan were in agriculture which was to be cut from Rs. 33.6 crores to Rs. 21 crores, irrigation and power from Rs. 52 crores to Rs. 37 crores, industry and mining from Rs. 14 crores to Rs. 8 crores. So much for the core sector. In the non core sector, transport and communications were to be cut from Rs. 13.4 crores to Rs 8 crores and education, health and social services from Rs. 50.7 crores to Rs. 32 crores. In making these proposals for reductions, the Union Planning Commission raised two issues. The first was the financial constraint. In spite of the more than doubling of the outlay proposed in the Fifth Plan compared to the Fourth Plan, it is now stated that the Fifth Plan first year Central assistance would be at the same level as that of the last year of the Fourth Plan. This means that even for the reduced plan of Rs. 108 8 crores, the Central assistance would be Rs. 41.15 crores and the State government would have to raise Rs. 67.65 crores. If the State wants to have a Plan of Rs. 165.8 crores, it will have to raise a further Rs. 57 crores. This is really an impossible position for the State. The second issue is that through this small first year plan, the Union Planning Commission states that it will safeguard the core sector.

As the core sector has been the subject of very heavy reductions proposed by it, the core sector here can only mean the industries that the Union government is responsible for and the agricultural programmes which are Centrally sponsored and operated. The advice given to the State government is to concentrate the first two years' plan expenditures on spillover and quick yielding projects. This is precisely what the State government, on the advice of its Planning Commission has done. It is likely that in the end the 1974-75 Plan will be established at Rs. 150 crores. If this is so, then the difference of Rs. 40 crores over the Union Planning Commission's proposal should be equally split between the Centre and the State, and the State with the fiscal implications of prohibition will have to raise an additional Rs. 85.90 crores for this first year of the Fifth Plan. It is to that task that we must now address ourselves.

Prices and Controls : Prices in the State have not declined to reflect the continuation of the Sales Tax concession on pulses and edible oils extended upto March 31 as referred to in the last issue (page page 111). The December 1973 consumer price index stood at 233, (1960 being the base). The total exemption from Sales taxes for pulses and the single point levy for edible oils have now been in existence since September 1, 1973, but it seems that instead of resulting in lower prices to the consumer, the retailers' profit margin has been increased Gingelly oil was selling at Rs.8.78 per kg in January compared to Rs. 8.56 per kg in December, groundnut oil at Rs. 8.29 per kg compared to Rs. 7.7 a month earlier. There was aslight decline in the price of dhalls – blackgram dhallfrom Rs. 2.63 per kg in December to Rs. 2.40 per kg in January, green gram dhall from Rs. 2.66 to Rs. 2.64, Bengal gram dhall from Rs. 2.73 to Rs. 2.60. The retailers refer to the general inflationary pressures in the Country, the difficulties in movement of pulses and oilseeds due to rail strikes and the rise in the lorry freights to explain this price situation. Also the new budget with its new taxes is around the corner and a number of merchants are holding back goods and so the upward price push in sugar, soaps, butter, vegetables, fish and mutton continues. Under these conditions, the decision of the government to make a survey of the impact of its Sales Tax concession which is costing it Rs. 54 lakhs a month (and for the 7 months of its existence to date has involved a reduction in its resources by nearly Rs. 4 crores) is timely. If the government is in no position to ensure that the tax relief is passed on to the consumers, it should be withdrawn. In fact, the January joint meeting of 4 sales tax regional councils has agreed that the Central Sales Tax which has remained unchanged since 1966 should be revised upward, that foodgrains and fertilisers should not be exempted from the tax, and that the sales taxes of the State should be uniform, varying by not more than 1 or 2 per cent in the case of certain commodities. This decision will lead to some further increase in prices but it should also result in some decrease in consumption by the middle classes. The effect on the lower income group can be mitigated through the ration cards for rice, sugar and other articles that are being issued afresh in mid February. Also, under the Essential Commodities Act, the government issued in January the Food Restriction of Service of Meals by Catering Establishment Order 1974 under which restaurants are restricted to two courses in serving their customers or catering for parties. This would cut down consumption of food articles. Also more generally the government is curtailing all non-essential government expenditures and gathering its resources for expanding production and plan pro-

grammes. Meetings and conferences have been cut, use of State department cars is to be economised and in travel of over 200 miles not be used at at all and so on. There is one further action that needs to be taken at the State and all India levels and that is to counter the growing adulteration of all food articles in the Country - as pointed in the last 3 issues of the Bulletin (Vol. III pages 618, 698 & 773). According to the survey in January of the Consumers' Council, sponsored by the Planning Commission, even fair price shops are indulging in adulteration. Cement, butter, ghee etc. are adulterated and sold in these shops. This can be controlled by the State and Union governments.

Power: The power situation in the State continued through February with the 15 per cent cut. One negative element in the power situation is that the Mettur January water storage level of 12.19 metres will fall to 5 metres by the middle of February so that there will be insufficient generation of hydel power in the summer months. The agreement to purchase 300 million units from Kerala was reviewed by the Kerala Council of Ministers which approved the supply of 150 million units as per the original agreement, and a further 150 million units subject to the availability of surplus power in Kerala. As at the end of December 1973, Kerala had supplied this State 37 million units. Also the price has been fixed at 7.8 paise per unit for the first 100 million units and 8 paise per unit for the remaining 50 million units in the original agreement. In an effort to improve rural electricity servicing, the State Electricity Board has set up a separate cell to ensure proper maintenance of street lights in panchayats and panchayat Unions in the State. Specially trained officers are deputed to visit the panchayat and aid in the adequate and economic use of street lights. BHEL, Bhopal, will be delivering the two Ennore transformers after repairs by the end of February and April respectively. Under the Rural Electrification Corporation programme, the State receives Rs. 13 crores for 35 schemes in 3,120 villages in 10 districts to energise 44,800 pumpsets, 1,300 small scale industries, one lakh commercial connections and 16,000 street lights. Given the growing demand from industry and agriculture and the time lag involved in the new power projects at Neyveli and Tuticorin coming into operation, the 15 per cent cut in the State is likely to be a continuing feature of the Fifth Plan. The Kadamparai pumped Storage Scheme cleared by the Union Planning Commission and government (See Vol. IV page 4) has placed an order with Bharat Heavy Electricals, Bhopal, for four 100 MW sets. Originally estimated to cost Rs. 32 crores, the Kadamparai project is now estimated to cost Rs. 65 crores. This is the price that the people and Country have to pay for delays in procedures The further postponement of this project suggested initially by the Union Planning Commission would have led to further price escalation, because the increased cost is due to increased cost of imported equipment needed by Bhopal. International capital goods prices continue to rise and so the State government was able to persuade the Union authorities that Kadamparai should not be further delayed. Now Bhopal should deliver the generators in time for the increasing power demand in the State to be met at least partially.

The power situation in the Country shows similar tightening. In mid January, the Punjab State Electricity Board imposed a general cut of 20 per cent in the Punjab and a similar reduction has been imposed in Haryana. This is due to the reduction in Bhakra power generation by one million units per day in order to maintain the

level in Gobind Sagar reservoir. In U.P., due to the need to conserve water in the Rihand lake, from January 19 power supplies to Aluminium, Caustic Soda and steel furnace industries were completely stopped. Apart from the problem faced by the coal based thermal stations due to the difficulty of transporting coal (See Vol. III page 774). the lag in the time table of nuclear energy is a further factor to be taken into account. On the assumption that the Tarapur, Rajasthan, Kalpakkam and Narora Stations will be functioning by 1980-81, (the second year of the Sixth Plan) the nuclear generating capacity at that time will be 1,300 MW against the 5,000 MW forecast by the Energy Survey Committee in 1965 and 2,700 MW estimated by the Department of Atomic Energy in 1970. But the assumption itself is a little shaky. Of the four stations only Tarapur is functioning on enriched uranium. Rajasthan is still not out of the woods and Kalpakkam faces additional delays (See last issue, Vol. IV page 142). Narora in U.P. whose foundation stone was laid in Mid-January by the Prime Minister will also use 235 MW generators which is wise because it is only by standardising at this level that manufacturers can amortize their heavy investments over a long period. That will also reduce unit costs. The use of 500 MW generators should be postponed till such time as we have a stabilised and proven technology for the 235 MW generators, some features of which can be used for 500 MW units later. DAE plans to start design work on these large size (500 MW) atomic plants early in 1975. This is alright because the stations will not be completed till 1985, by which time we would have stabilised the 235 MW generators technology and could move to 500 MWs. The Narora station will have 2 atomic reactors of 235 MW each, costing Rs. 210 crores with a foreign exchange component of Rs. 30 crores. All efforts should be concentrated on ensuring that its time table involving the first unit becoming critical by 1981 and the second by 1982 is adhered to—unlike Rajasthan and Kalpakkam.

Kudiyiruppu and Land Reform: The January session of the legislature passed a bill to amend the Tamil Nadu occupants of Kudiyiruppu Act 1971 (See Vol. II No. 9 page 4, No. 10 pages 3-5, No. 11 page 4) which excludes plantation labourers, plantations and lands held for ancillary purposes of plantations from the scope of the Act. Many plantation labourers occupy houses which belong to the plantation and which have been built with government subsidy under the labour welfare schemes. These occupants will not have ownership rights as the houses are meant for present and future plantation labourers. The Act, however, provides for specific exclusions, as agricultural labourers in such plantation villages working on ordinary farm lands and non-plantation crops will have the same ownership entitlements as other agricultural labourers. The Act also provides for the occupants of Kudiyiruppu not selling or alienating their right for a period of 10 years, unless the authorised officer permits it. This amendment closes some of the loopholes of the 1971 Act which is in effective application in the State. The Assembly also adopted the amendment to the Tamil Nadu Land Reforms Act 1961 which enables the government to take over fresh lands as surplus and the payment of compensation for such land.

Inter-State Rivers: The governments of Tamil Nadu and Mysore are continuing their consultation on the Cauvery waters and by the end of the month the possibility of an agreement should emerge. The government has also informed the Union government that article 262 (1) and entry 56 of the Constitution should continue unchanged under which river

waters are a State responsibility, with the Union Parliament being responsible for legislation with record to inter-State waters. With regard to inter-State river disputes, the State government has proposed that the Means of settlement should include negotiations at the State level, arbitration by the Prime Minister on the National Water Resources Council with the Prime Minister as Chairman and utimately appealing for a decision to the Supreme Court. The proposal referred to in Vol II No. 8 pages 8 & 10, Vol III pages 562-563 of amending the Constitution to declare water as a national asset and the settlement of inter-State disputes by conciliation or arbitration has not been accepted by the State. This continuance of decentralized authority will require that this State and other States should regard water as a scarce and invaluable input and settle disputes speedily with due fairness to all the people and parties involved.

Housing: The Housing Board during the year sanctioned Rs. 150 lakhs for the construction of rental flats for government servants at taluk headquarters It has also received Rs. 2 crores from the LIC for housing schemes under the co-operative sector. The demand for housing for middle income groups (each house costing Rs. 25,000 to Rs. 50,000) has grown to the point—where the Board has drafted a Rs. 15 crore plan, at the rate of Re. 1 crore per district, for housing. The recent restriction of bank financing of housing imposed by the Reserve Bank as an anti-inflation measure (see last issue, Vol IV pages 119-120) has made the execution of this plan problematic. It is necessary for the government and RBI to examine together the extent to which housing construction has an inflationary impact. The Reserve Bank is on its side faced by special pleas from a number of sectors—farmers, small industries, core sector, export houses and now housing—and its natural reaction is to maintain a blanket ban. But already there has been some relaxation of the blanket order and in this context, a review of housing claims because of its employment as well as its welfare aspects seems justified.

Urbanisation and industrialisation : A study published in the Economic Times (January 9 and 10) throws some light on (a) the relation between urbanisation and industrialisation in the State and (b) the extent to which this State depends for its working capital on savings from the rest of India. Against the all India advance-deposit ratio average of 0:712 and the Southern regional average of 0·934, this State's ratio is 1:169. Tamil Nadu's deposits are 6 per cent of the total national deposits while its advances are 9.8 per cent of total national advances. The major areas where advances are much lower than deposits from which Tamil Nadu draws its surplus advances are Madhya Pradesh and the North Eastern States. There are 4 other States in this position of a higher advance-deposit ratio above the national average (Karnataka, Andhra Pradesh, Maharashtra and West Bengal), two union territories (Pondicherry and Delhi) and one city (Chandigarh) But the Southern region and in particular Tamil Nadu are at the top of the ladder. This analysis shows the inter dependence of the States in their development, the extent of development of Tamil Nadu on capital flows from other States and regions, and how this analysis could be used as an argument for restricting the flow of funds to Tamil Nadu and other developing States. But this last consideration can be sustained only if the social returns as distinct from private returns on such advances begin to decline, if the people of this State are measurably better off while those of other States are worse off. One evidence that development in Tamil Nadu is fairly wide-spread is that this State has

the largest number of towns which has an advance-deposit ratio greater than the all India average at 59 and compared to the regional level 44, which spread none of the other States has. But it also means that this State must continue to maintain an investment climate to attract resources from outside and invest them in industries which the Central and North Eastern regions which contribute the working capital resources to this State, need.

Transportation: The Madras Metroplitan development scheme has been granted Rs. 5 crores—out of the overall project requirement of Rs 200 crores (See Vol. III page 90 and Vol. IV pages 7-8.). The project grant of Rs. 5 crores is to be used to develop Marimalai Adigal Nagar which is some 30 km from the city. The Railway Board has also approved in principle the underground railway net work for Madras. The State's Area Transportation study unit which forecast the population of the Madras Metroplitan area by 1981 to be 4 .8 lakhs (compared to the current 30 lakhs) involving 54.8 lakhs trips a day by the people, the demand for daily mass transportation increasing from the current 12.5 lakh trips to 47 lakh trips in 1981, recommended an underground mass rapid transit system aligned along the North-South-East corridor connecting Ennore and Tiruvanmiyur (See last issue Vol. IV page 116) With the approval of the Railway Board and the funds provided under the Fifth Plan, work on exact cost estimates and location and other surveys should now be started. Work in Calcutta with Soviet collaboration, is underway and the next in line are Bombay Delhi and Madras in that order. Given the cost and foreign collaboration needs of these 4 projects, the Railway Board is rightly standardising the pattern of the project in all 4 schemes in order to economise on spare parts, components and ensure the maximum production of equipment within the country. Thanks to the co-operative work of the Railways and the State Highways Department, over-bridges are being speedily executed in this State. The Railway Board has noted the special flair of Tamil Nadu in this regard. In mid January a Rs. 44 lakh three tier over-bridge constructed across the level crossing on Avinashi Road, Coimbatore, the first of its kind in the Country, was opened. In addition to the Madras-Trivellore line (See Vol IV page 6) the Madras Vijayawada line is being electrified and work will start again on the Madras-Arkonam line. The Cheran Transport Corporation introduced from Mid January a pension cum family pension scheme, family benefit fund and housing scheme for its staff in Coimbatore and Pollachi. This replacement of the previous provident fund scheme will benefit 2,400 employees and cost the corporation Rs. 30 lakhs a year. In the Pallavan Transport Corporation, the Bonus Scheme under which 5 per cent of the collection on the city routes and 3 per cent on the district routes is equally shared by the drivers and conductors (each getting an additional Rs. 90 to 100 per month) has increased daily collection by a little over Rs. 1 lakh. The scheme has been in operation since June 1973 for all routes (for 2 routes since April) and is a useful pointer to methods to improve efficiency, motivate the staff and meet their welfare needs at the same time.

Tourism: The Pongal Trade Fair in January was a good tourist attraction in the city for the three weeks of its life. The exhibits included multi vision films on tourist spots of the State and the Country, the sound and light spectacle on Silappathikaram, a Tamil village portraying the rythm of rural life in the State, a pathway with temple pillars guarded by 2 huge statues of Aiyannar and a 2 day jallikattu. The success of the exhibition points to the

desirability of its becoming a permanent exhibition in the city which would be the only one of its kind in the country. The Tourist Development Corporation is also considering a proposal to launch 60 seater river boats for pleasure boating on the State's coastline.

Planetarium: The government is setting up with the help of a private firm a planetarium on the Marina Beach, adjacent to Gandhiji's statue. It will be recalled that the State Planning Commission recommended this establishment as a means of increasing the science education and consciousness of the people. (See Vol. II No. 9 pages 28 & 29).

Welfare: The 10th leprosy beggars' rehabilitation home was opened in early January at Vinnapalli, near Coimbatore. With this home the programme initiated in 1971 with the public voluntary contribution of Rs. 1.1 crores is completed. Of the 5,000 leprosy afflicted beggars in the State, 2,780 are being rehabilitated in the homes. To improve the rehabilitation programmes in these homes, trained social workers are being employed. The time is now ripe for an evaluation of the functioning of these homes so that their programmes can be adapted and suited to their end purpose. Such an evaluation may also throw light on the government's long range plan to ban begging in the State and set up rehabilitation homes for their training, employment and care. The 10 existing homes are facing a number of problems in retaining the beggars suffering from leprosy. About half of the total numbers prefer to live outside and continue begging. Enlarging the programme will also increase the problems facing the rehabilitation part of the programme. Before any wider legislation to ban begging is developed, the nature of the inducements to live in the homes, the attractiveness of the programme of rehabilitation, and the stages in which such a programme should be planned should be carefully investigated.

National:

Fifth Plan: The First Annual Plans of the Fifth Plan of the States were reviewed in January by the State government and the Union Planning Commission and as noted in the State section for Tamil Nadu, were in general established at about the same level as that for the current year, the last year of the Fourth Plan. This resultant has given some basis to the view that the resource mobilisation assumptions of the Draft Fifth Plan (See Vol. IV page 9) are on the high side and its consequent distribution between the various sectors within each State Plan has raised important questions about the mutually reinforcing nature of the goals of growth, removal of poverty and self reliance. In the State Plans, the core sectors and the minimum needs programmes have had to be drastically cut back and now the issue is, if the Plan strategy and policy frame are to be maintained and turned into operational terms what should be the trade offs between the three goals. For the State Plans, such trade offs between growth and removal of poverty should be specifically faced and form part of their policy frames that can then be forged into policy instruments. All State Plans are in light of the resource constraints with which they are faced, opting for a straight growth policy and tending to point to Union authorities' reductions and lack of resources to give up on the major goal of the Fifth Plan—the removal of poverty. In this situation, the trade offs are not an either or option, and it is possible to maintain and specify the extent of the poverty eradication goal that a smaller plan and a little lower growth rate can make possible. In this State's policy frame, the poverty eradica-

tion objective has been set in such attainable terms - the selective attack against the worst forms of poverty. One fallout of the Annual plan exercise has been, a serious discussion with the Union Planning Commission that State Industrial Development Corporations be permitted to meet their market borrowing requirements out of a separate All India quota outside of that earmarked for State financial institutions. This suggestion proposed by the Maharashtra government in its Annual Plan programme involves SIDCO's being treated on a par with financial Corporations and land development banks for purposes of open market borrowings. In view of no grants-in-aid decided by the Sixth Finance Commission to seven States —Maharashtra, Tamil Nadu and other prudent and developing States, it is essential that these States whose credit-worthiness and borrowing capacity is high be compensated to some extent by being given for their industrial Corporations this power of raising resources for their industrialisation programmes through market borrowings.

State of the Economy: A profile of the Indian economy for the last 3 years of the current Fourth Plan is provided in the following table with particular reference to industrial growth, imports/exports and credit and money supply conditions.

(Rs. in crores)

	1971-72	*1972-73*	*% rise*	*1973-74*	*% rise*
1. Industrial Production Index (1960=100) (calendar year) General	186.1	199.4	7.1	195.5(c)	-1.9
2. Money supply (last Friday... .. .... Rs. in crores)	8138	9348	14.9	10061 (7, Dec.)	7.6
3. (a) Scheduled Commercial Banks' Deposits (last Friday...Rs. in crores)	7106	8588	20.8	9859 (14 Dec)	14.8
(b) Scheduled Commercial Banks' Advances (last Friday . Rs. in crores)	5263	6066	15.2	6708 (14, Dec.)	10.6
(c) Credit deposit ratio (per cent)	74.1	70.6	—	68.0	—
4. Foreign Exchange Reserves (at the end, Rs. in crores)	848.7	846.6	-0.2	862.2 (Sept. 73)	18.3
5. National Income at 1960-61 prices (Rs. in crores)	19033	19101	0.4	19215(e)	0.6
6. Wholesale price index (1961-62=100) (Averages)					
(a) General	188.4	207.0	9.9	245.0*	18.4
(b) Food	210 3	239.6	13.9	287.7*	20.1
(c) Industrial Raw materials	191.0	203 4	6.5	289 2*	42.2
(d) Manufactures	167.1	176.7	5.7	195.8*	10.8
7. Exports (Rs. in crores)	1607.0	1961.5	22.1	659 8@	—
8. Imports (Rs. in crores)	1824 6	1776.8	-2.6	706.7@	—

* Average for the period from April-November 1973.
@ April-July 1973.
(e) — estimated
(c) Average for the period from January-June 1973.

Essential goods management: The Dharia Committee's report on essential goods production and distribution defines the essential commodities as wheat, rice, coarse grains, pulses, sugar, vanaspati and other edible oils, milk, common clothing, standard foot-wear, kerosene and other domestic fuels, standard washing materials and school text books. It proposes active public management of the supplies of these mass consumption goods in order that the poor consumers may obtain them at low prices. It cautiously recommends extending the government take over of pulses and cereals after the take over of wheat and rice is stabilised. A key role in this programme is played by fair price shops, 40 per cent of which are concentrated in Kerala, Maharashtra, West Bengal and Gujarat. An adequate number should also be opened in the other States on the basis of a State by State Plan. Retailers also should be licensed as fair price shops and a careful watch kept over them. With regard to prices, an increase in the price of coarse cloth following the recommendation by the Bureau of costs and prices to induce increased production is recommended, but in order to make the prices of the coarse varieties low enough to meet the low purchasing power of the poor, the profits on superior varieties of cloth should be used to subsidise the prices of the coarse varieties. On edible oils, it recommends a levy from 50-70 per cent on power crushers and linking the price of levy oil with the statutory minimum price of the relevant oil seed. Kerosene distribution will be by IOC and a Central organisation should market coal and soft coke. The National Co-operative Consumers' Federation should handle distribution of coarse cloth, standard footwear, soaps and detergents. Housewives' associations are to assist the State governments in watching the effective functioning of the distribution net work. Action on this report is an essential part of the major objective of the Fifth Plan – the removal of poverty—and its translation into legislative and executive decision is now a priority. In the meanwhile the levy system and the distributive frame of rice should be settled more definitively.

Prices and Credit: Unlike the small fall reported in the last issue for early December, the wholesale price index for the week ending December 29 showed a rise of 0.7 per cent compared to the previous week, at 264.0 and the all commodities index was higher by 2.5 per cent. The calendar year average of the wholesale price index during 1973 showed a rise of 50.6 points. The monthly average for December 1972 stood at 262.1 against 260.0 for November and 211.4 for December 1972. The main price rise was in cereals, pulses, fruit, edible oils, raw skins and oil seeds with a fall or no change in onions, eggs, barley and gur, fuel and power, chemicals and machinery. Against this background the RBI tight credit policy continued to be debated. As analysed in Vol. IV page 16, the RBI directive raised the liquidity ratio of commercial banks from 30 to 32 per cent, placed a ceiling at 10 per cent over the end of September 1973 credit level for expansion in the busy season, raised the minimum lending rate on advances from 10 to 11 per cent, raised margins and set a limit to borrowings by banks. Large scale credit creation by the government and the private sector alongside a low rate of GDP growth and a near stagnant industrial situation have made for the inflation referred to earlier. The Union government's tax collections between April and November 1973 amounted Rs. 594.20 crores but its additional (deficit) expenditure rose by Rs. 450 crores. Between April and November the net Reserve Bank credit to government was Rs. 868 crores compared to Rs. 318 crores for the same period in

1972-73. The total bank credit to government rose by Rs. 1,020 crores compared to Rs. 912 crores during the previous year. Currency with the public increased during the year by Rs. 937 crores against the Rs. 253 crores of the previous year, boosting the incremental currency deposit ratio for the current year to 61:39 as against 31:63 last year. The other factor making for the inflationary pressure is credit to the private sector. The outstanding credit to the private sector at the end of September 1973 was Rs. 6,000 crores and the busy season ceiling of 10 per cent meant that between October 1, 1973 and April 1974 credit expansion would not go beyond Rs. 600 crores. Altogether the RBI computed the availability of funds for the season at Rs. 850-900 crores including Rs. 250 crores for food procurement, Rs. 100 crores for exports and Rs. 130 crores through the Bill Market scheme. In addition the credit needs of each of the major sectors, of private and public enterprises were reviewed so that there could be some credit planning. The case for such planning is clear as during the 11 months ending November 1973 bank credit rose by 17.5 per cent whereas the government index of industrial production declined from 199.0 in March to 192.7 by the end of the year and for the six months of the year was a small 0.7 per cent. Thus the increase in bank credit to industry has not been to finance industrial growth but the inflationary spiral. It is true that bank deposits have been growing. They rose by 22 per cent during 1973, compared to 17.5 per cent in 1971 and 20 per cent in 1972. As at December 28, the total deposits increased by Rs. 1,806.73 crores to 9,952 30 crores, with a big jump in time deposits by Rs. 1,128.06 crores to Rs. 5,815.87 crores. The major reason for this deposit increase was not really the increased efforts of the banks and their branches as the deficit financing of the government, resulting in the money supply with the public in the form of notes and demand deposits increasing from Rs. 1,500 crores to Rs. 9,900 crores during the year. The pressure for relaxing the credit restrictions mounted during the last 2 months. The State governments, particularly those like Kerala which with 3 per cent of the total national advance to it were being restricted in credit supply in the same manner as States like Tamil Nadu, Maharashtra West Bengal and Gujarat who accounted for 70 per cent of the total credit demand a relaxation in their favour. Tamil Nadu and the favoured States also pleaded for relaxation because their small and medium industries were being hit. The private enterprises on their side pointed to their credit needs on which they had no choice as imports through STC and MMTC arrived in bulk and had to be paid for, on arrival, as steel and other raw materials being in very short supply had to be bought and stocked when available and as with the shipping bottlenecks, export goods were piling up in ports. On top of all this, their public sector customers did not settle their accounts promptly making it necessary for them to resort to credit. In face of these factors, the government exempted small units (that is, those receiving credit facilities not exceeding Rs. 2 lakhs) from the restrictions. This meant that 90 per cent of 3.22 lakh small units now could get their credit freely. Similarly the export sector has been exempted from quantitative ceiling and is assured of increased refinance facilities – particularly in view of the need to maximise exports to offset the increased crude import bill. The result has been that between October 1973 and January 18, 1974, the credit granted by the scheduled commercial banks expanded to Rs. 465.93 crores, and if the bill market scheme assistance is added amounts to Rs. 553.93 crores. If the food procurement advances are excluded (Rs. 100 crores), the credit absorbed by the economy is Rs. 450 crores which is a little

less than double that in the same period in the last busy season. At this rate the current busy season will end with a credit expansion of Rs. 1,000 crores. This must be curbed by the RBI and the banks. Deposits have grown only by Rs. 521.34 crores during this period (compared to Rs. 490 crores for the same 4 months in the last busy season). So the borrowing from RBI has gone up by Rs. 251.96 crores compared to the less than Rs. 3 crores in the last season. This is about 3 per cent of the banks' liabilities which is 1 per cent more than the RBI's guideline. Two developments should be noted in this situation—the banks' increased investment in government securities and the RBI's generous discounting of Bills. This last facility will have to be cut back in order to keep to the total credit ceiling target of Rs. 800 crores while at the same time administering the rules in light of the criteria of economy, equity and efficiency.

National Production Front:

Steel: Durgapur production in 1973 increased by 91,976 tonnes to 8,09,740 tonnes of ingot steel despite the various restrictions in power supply, gaseous fuel, and coal. In 1972 it was 7,17,764 tonnes. Its saleable steel production in 1973 was 4,75,674 tonnes compared to 4,72,324 in 1972. The finishing units in blooming, billet and merchant mills attained records during the year. Its stainless steel flat products between April and December were 3,002 tonnes (compared to 2,071 tonnes during the same period in 1972). On this basis, SAIL production for 1973-74 is likely to be 7,098 million tonnes of ingot steel and 5,441 million tonnes of saleable steel. The most disturbing report in January was that in a situation of shortages, over 3 lakh tonnes of saleable steel are lying idle as accumulated stocks within the steel plants, starving the consumers and locking up money resources. The stoppage of rail movement explains this mess which should be cleared up and not allowed to happen again. The targets for 1974-75 proposed by SAIL on the basis of continuing and in some cases worsening availabities of power, coking coal, fuel oil and rail transport is lower at 6.37 million tonnes of ingot steel and 4.45 million tonnes of saleable steel. At a time when steel is in such short supply and the cost of imported steel is rising, this lower target for the coming year needs upward revision. The four input factors can and should be improved to increase production. Further, Bokaro has started producing. On December 27, Bokaro's 100 tonne converter began making ingot steels and for this year it is producing 5.7 lakh tonnes. In the first stage there will be four 100 tonne converters to produce 1.7 million tonnes of ingot. To run one converter with a capacity of 8.5 lakh tonnes a year, two converters have to be ready, as each stops after a week for relining. Because of the higher percentage of silicon impurities in our pig iron, these converters have to be relined after 160 heats (which is better than the 120 heats of the Rourkela converters) compared to the 400 heats of Japanese converters. Bokaro's units are performing well. The first blast furnace with a rated capacity of 2,600 tonnes a day has turned out 3,000 tonnes. All four coke oven batteries are now ready for this first stage. Even with this one blast furnace operating, Bokaro will be turning out 1 million tonnes of pig iron, which is in short supply. If Bokaro's coal supplies are assured, the revised SAIL targets for the coming year of 6.9 million tonnes of ingot steel and 5.19 million tonnes of saleable steel will be realised. Even this is lower than the current year's production. The Country spends Rs. 25 crores a year in importing electrical steel for the electrical industry. It is now proposed to set up a Rs. 51

crores electrical steel manufacturing plant. The engineering designs and technical data for the plant and its transformers and generators are now being finalised with the foreign collaborator. The government has decided to suspend further licensing and registration of steel structural projects because the number of licenses and the installed capacity are adequate, particularly in relation to the limited raw material supplies. Similarly steel usage for building construction is to be cut back. This is a much needed step as buildings upto 3 and 4 stories can be constructed by using brick arches. The proposed import of 1.4 million tonnes of steel for next year whose price will be higher than the estimated Rs. 228 crores can be significantly reduced.

Copper: Hindustan Copper reported good production for December in all its three projects. Its Bihar unit produced 997 tonnes more of milled ore at 75,776 tonnes, 6 more tonnes of wire bars at 888 tonnes, and 108 tonnes of blister copper. The recently commissioned Rajasthan unit exceeded its rated capacity of 100 tonnes per day in December to 3,278 tonnes of ore. Similar increases in the production in ore mined and milled and concentrates were recorded in its Khetri unit. Given the very short supply of copper in the Country, this performance is a much needed and commendable relief.

Minerals: The Bureau of Mines report shows increasing production not only of copper as noted above but also of iron, manganese, bauxite, phosphosite and magnesite during the year. In September the production was valued at Rs. 37.8 crores and in October at Rs. 36.4 crores. Mineral fuel averaged Rs. 27.6 crores per month, metallic minerals Rs. 6 crores and non metallic minerals Rs. 3 crores. In the case of 3 minerals—dolomite, limestone and mica—there was a declining production in one month, October, compared to higher rates in the previous month. The report is optimistic about the end of the year returns on our minerals production.

Crude: In January the price of crude continued at the level reported in the last issue at $11.65 for light Arabian crude. The price rise initiated by Iran and followed by the gulf countries has been adopted by all producing countries. Malaysia which pushed up its price from $5.65 a barrel to $11.65, Indonesia, Nigeria, Ecuador, Venezuela and Libya have decided on similar rises and in some cases to raise prices even further. The Soviet Union has announced that it will follow market trends in fixing its crude export prices except to the Comecon countries. China is also following the market price in its supply of crude to Japan. With the strengthening of the dollar in January on the world money markets (See section International, World Monetary Reform), it was expected that the 13 Nation Organisation of Petroleum Exporting Countries (OPEC) will reduce the crude price by the 6 percentage points by which the dollar has been strengthened. The agreement in 1972 between OPEC and the oil companies that the price of oil would be varied to protect the producers against a decline in the dollar's value and the resulting rise in prices now should have had its counterpart. The 6 per cent strengthening of the dollar should have reduced the price from $11.65 to $11.00 per barrel. But the January meeting of OPEC decided to maintain the price unchanged until April 1. This stand-still it was stated is to test the goodwill of the consumer countries which are expected to reduce their taxes on crude and reduce the profits of the oil companies. It is clear that oil prices will not come down and the Country should base its plan on an average price of $10 per barrel. Burmah Shell and Esso in mid January have asked for a price rise from January 1.

Burmah Shell wants an increase from $ 4.01 to $ 8.45 per barrel for light Iranian crude. Esso wants an increase from $ 3.86 to $ 8.32 for light Arabian Crude. Caltex had not in January indicated its price rise. But all companies have informed the government that further price increases will take place as the producing countries will increase their prices as well as their share of the oil produced in the country. In most of the gulf countries the share of the countries which has been 25 per cent is now expected to increase to 50-60 per cent. This reduction in the companies' share will lead them to further increase their prices. In January there was still no clear indication of the price at which the government to government import of oil from Saudi Arabia, Iraq and the Soviet Union was to take place. But it should be assumed that all these countries—despite their close ties to and friendship with India—will be selling the government oil to us at the market price. The Soviet Union had made a general statement to that effect and the Planning Minister's visit to Iraq and Kuwait in January has clarified and confirmed this matter. In the meanwhile the government asked the oil companies and other suppliers to keep up their supplies and is making payments on a tanker basis. Both the private and public refineries had in January a full and free flow of supplies as a consequence. This whole issue needs careful analysis. The oil producing countries when they sell to the companies receive only a percentage somewhere around 15-20 per cent of what the final consumer pays for crude. As they expand their share of the oil produced, they get the full price. The share of the company profits is high and this share at least should be reduced in the government to government purchases. January also saw a steep increase in the price of petroleum products in India, including the price for furnace oil, transformer oil, lubricants and greases and naphtha when not used by the fertiliser units. The increases announced were Rs. 232 per kilo litre for furnace oil, Rs. 194 per tonne for Naphtha, Rs. 205 to Rs. 310 per tonne of bitumen, Rs. 404.4 per tonne of lube and Rs. 337 per tonne of transformer oil. This price rise will send up costs for all our industries and might bring a closer relation between supply and demand. The demand for furnace oil has been 4.8 million tonnes and the production of our refineries is 3.4 million tonnes. Naphtha production is 2 million tonnes and demand is 3 million tonnes. In this situation the first action that should be taken both by the government and on a voluntary basis by the people is to cut back on all possible uses of crude. As at January the consumption of petrol had fallen by 30 per cent. In order to increase the production of furnace oil, kerosene production was cut back by 15 per cent as from January. The most important saving is in oil for industries and thermal plants. Late in January the government decided that they must use coal instead of furnace oil. This change over from oil based to coal based industries will involve (a) time, (b) additional investment and (c) an assured supply of coal. Already uncertainty of coal supplies and power shortages have obliged the power and irrigation Ministry to defer switches from oil fuel to coal in the Western region and Barauni thermal power stations, but this switch must be made. It is proposed to convert the 2 units in Trombay, 4 at Barauni and several at Sabarmati thermal power stations at a cost of Rs. 5.5 crores to make them suitable for coal firing. To carry these plans through, coal supplies must be assured to all industries which make the switch. The use of naphtha as well as fuel oil as feedstook for fertiliser plants should be replaced by coal. As against the annual import of 1 million tonnes of furnace oil (with a total consumption of 4.8 million tonnes as noted

earlier), IOC has not been able to obtain even 1 lakh tonnes for this year. There will have to be a drastic reduction in the use of furnace oil not only for power generation, affecting stations like Neyveli which have spent 18 months switching over to oil generation, but also for fertiliser plants. The 3 fertilisers to be set up with Japanese aid in Bhatinda (Punjab), Panipat (Haryana) and Mathura (Uttar Pradesh) whose planned feedstock was furnace oil will have to be reprogrammed. Kerosene for cooking can be replaced by cooking gas in towns and wood and cow-dung in the villages. There should be further reduction in petrol consumption. These economy measures should also be related to the value added criteria. The value added per tonne of oil as feedstock is relatively the lowest in cooking use and power generation use and highest in petro-chemicals. Its use in fertilisers and transport falls in between. Given our stakes in fertiliser production, the highest priority in oil use should be given to fertilisers followed by petro-chemical industries, along with a drastic cut in domestic cooking, transport and industries generally. The other action is to intensify our internal production of oil. Both ONGC and Oil India should now proceed to augment their annual oil production from 7 million tonnes to 9 million tonnes and the government should modify its earlier policy of conserving the oil reserves and regulating production. The present emergency must be met by intensified drilling. The declining rate of production in the Ankleshwar oil fields must be compensated by more regulated, planned and intensive drilling for offshore oil in the West Coast (off Maharashtra and Kerala) and in the Cauvery Basin. The Union government's holding of 50 per cent partnership in Burmah Shell and Oil India can be increased in order to intensify their oil exploration particularly in Arunachal Pradesh. A further consequence was the decision in mid January of the Union government to acquire 74 per cent of the equity shares of Esso Refinery, Esso Marketing and Lube India, the remaining 26 per cent to be acquired after seven years, during which period Esso will be paid off in six equal instalments. The three units are to be merged into a single company which will continue to import crude from Esso's principals in Arab countries, particularly Saudi Arabia. In the case of Burmah Shell and Caltex which import their crude from Iran, the companies will continue their responsibilities to import oil, with the government importing crude from Iran for its own refineries in Madras and Cochin. Apart from intensifying efforts to develop new sources of energy, Solar and Wind, the Central Fuel Research Institute (CFRI) has set up the first pilot plant to convert coal into oil. The plant is converting a tonne of coal into liquid fuels such as gasoline and diesel oil as well as chemical feedstock for industries. As and when this operation becomes commercially effective, there can be a sizeable addition to our fuel supply. The government is also negotiating for imports at favourable prices. The Soviet Union will be supplying this year 1 million tonnes of kerosene and 1 lakh tonnes of high speed diesel. The OPEC countries whose reserves from the increased price of petrol in 1972 amounted to over $10 billion and which will double in 1973 are talking about setting up a development bank to provide soft loans to developing countries. These soft loans can be of use in mitigating to some extent the foreign exchange drain that the high oil prices are causing them. This should be pursued as part of the international commitment to development. The effort of the Country however should be directed to developing and executing a national energy polciy that will replace the present play of forces that disrupt our economy. The main lesson is to develop our coal reserves and resources for this purpose.

Coal: Coal production for this year 1973–74 will be 76.5 million tonnes as against the forecast of 72 million tonnes in Vol. IV page 20. With the oil crisis referred to above, the production of coal will have to be expanded to 95 million tonnes at a minimum for the next year, 1974–75. The newly appointed Minister for steel and mines is gearing the machinery to reach this target. With the help of the State governments concerned, a Coal Authority is to be set up to provide minimum amenities such as water, housing, foodgrains to coal workers, together with some rationalising of the many agencies involved in coal production and transport. Bharat Coal Mines claims to be ready to expand their production rapidly. There are also various forms of malpractices such as the manipulation in the coal movements established by CMA to the coal consumers. The railways at the lower levels and bulk consumers are also involved in these distortions which will have to be controlled and eliminated. The reporting on the production of the mines tends to be misleading as pointed out in Vol. IV page 20, The Raniganj fields reported an increased production of 78,000 tonnes in January, but if the unofficial mining to get around the various laws in the pre-nationalisation days in taken into account, there was really no increase. The Singareni collieries which cover the Kothagudam, Tandur, Yellandu and South Godaveri fields have proven reserves of 1,246 million tonnes of coal, with about 1/3 being inferior quality (slack) coal. Its production this year was 5.7 million tonnes compared to last year's little over 5 million tonnes, and 4.7 million tonnes in 1971-72. With the expansion of the mines, it is planned to increase its production to 8 million tonnes by the end of the Fifth Plan. For this the various constraints faced by this and other mines in the Country should be removed. These include adjusting the price to meet the heavy capital cost, expediting railway movements (the pit-heads stocks at Singareni are 2.56 lakh tonnes), improved and appropriate mechanisation to meet their varying geological conditions, setting up a unit for manufacturing mining machinery and stock piling spares, improving present mining methods, which extract only 50 per cent of the reserves, and developing new markets and new coal based industries. As far as Singareni is concerned, with the large thermal stations coming up in Andhra Pradesh and Tamil Nadu—Kothagudam, Ramagundam, Ennore Tuticorin and the fertiliser factories that have to be started, the demand for low grade coal now used by bricks and cement plants can also be extended for use in these thermal and fertiliser plants. Coal can be made by processing through low temperature carbonisation (LTC) which can become the domestic fuel. The switchover to a coal basis by industries is the major demand that our collieries will have to meet.

Railways: The other key element in this situation is the functioning of our railways. The strikes and agitations have continued in the railways, leading to the cancellation in January of many of its trains because of the lack of coal. The technical competence of the ministry is high and it needs to develop its industrial relations to the point where it can move the much needed coal, foodgrains, cement etc. on which the econony depends. In addition to using to the full its technical potential and organising its industrial relations, the railways also face a problem with regard to the dieselisation programme, and have to examine the alternative economics of further intensive electrification as well as continuing with coal usage. To date, its poor functioning is reflected in its financial situation. As at the end of 1973 its deficit amounted to Rs. 167 crores

Rs. 132 crores being due to the Pay Commission recommendation. It lost Rs. 35 crores as passenger and goods traffic, plus Rs. 17 crores in the two loco staff agitations. It lifted 12.9 million tonnes in December 1973 compared to 15.5 million tonnes in December 1972 because of wild cat strikes and agitations which held up 938 goods trains with over 60,000 wagons. Coal movements were most seriously hit in this situation. It can recoup part of this loss through efficient functioning for the balance of the period and laying the basis for good performance next year. Its research division has developed track modernisation plans, designs for improved wagons carrying capacity and double decker coaches. ICF Madras is building 3 prototypes of the double decker coach at a cost of Rs. 4.75 lakhs to seat 146 passengers on each. These and other improvements will enable the railways to meet the 50 per cent increase in demand for its goods and passenger services that will be registered in the Fifth Plan.

Electricals: From January 1, Heavy Electricals, Bhopal was merged with Bharat Heavy Electricals which now with its four units at Bhopal, Hardwar, Hyderabad and Tiruchi is responsible for the production of all transformers, turbines, boilers and circuit brakers both for the Country and for export. The merger should lead to improved production and greater co-ordination which in the case of the four units means evening out the surpluses and shortages. The resulting rationalisation of practices and pooling of technical resources should result in higher profitability.

Cement: In 1973 against a demand for 18 million tonnes of cement, the plants produced only 14.8 million tonnes—the shortfall which accounts for the problems faced by the building, roads and bridges worked during the year. In fact the 1973 output was lower than that of 1972 at 15.7 million tonnes. The main reasons for the shortfall were the power cut, particularly in the cement surplus states of Tamil Nadu and Andhra Pradesh and the transport bottlenecks with regard to the five lakh tonnes of coal needed by the industry per month. The Fifth Plan end year target of 28 million tonnes is based on 85 per cent capacity utilisation of the 33 million tonnes that have been licensed and should be operating by then. That will meet an annual 8 per cent increase in demand plus 0.5 million tonnes for exports. Once more the health of this industry depends on coal supplies and their uninterrupted movement.

Consumer Durables: 1973 also recorded serious under-utilisation of capacity in consumer durables of the engineering industry ranging from 25 to 55 per cent, with 100 per cent capacity use occurring in a few lines. In bicycles the installed capacity is 33.3 million and actual production was 22.9 million, in sewing machines the capacity is 4,49,000 and production 3,13,000 and in razor blades the capacity is 2,035 million pieces and production 1,000 million. The per capita availability of a number of consumer durables was extremely low—one kg. of household utensils per 100 persons, one kg. of builders' hardware products per 200 persons, one hurricane lantern per 50 persons, one oil pressure lamp per 13,500 persons, one watch per 1,200 persons, one radio receiver per 250 persons, one electric fan per 300 persons and so on. Here raw materials, shortage, storage problems and low purchasing power were dominant factors, accounting for under-utilisation of capacity and low per capita availability of the goods.

Sugar: As pointed out in the last issue (page 127), the 1972-73 season which ended in September, recorded 38.73 lakh tonnes of sugar production,

involving an additional 92 lakh tonnes of cane crushing. The recovery rate however was lower at 9.6 per cent compared to the previous year's 10.03 per cent. The 227 operating units crushed 401 lakh tonnes cane, with the additional cane crushing being done mainly in 3 States (UP 52.6 lakh tonnes, Tamil Nadu 7.28 lakh tonnes and Maharashtra 0.31 lakh tonnes). For the 1973-74 season, however, the start has been poor and the forecast is for a production of 42 lakh tonnes against the earlier prognosis of 45 lakh tonnes. In the first month of the season, October, 56,000 tonnes was produced (against 1.04 lakh tonnes in October 1972) in November 2.65 lakh tonnes were produced (against 4 lakh tonnes in November 1972) and in December 5 lakh tonnes (against 6.42 lakh tonnes in December 1972). The first quarter's sugar stocks were 16.54 lakh tonnes including 8.43 lakh tonnes carry over and the releases were 14.10 lakh tonnes including 1.50 lakh tonnes export. Both international and internal sugar prices are ruling high. Internationally the demand for sugar is far in excess of supply both now and for what is foreseen for 1975, so that with the general inflationary situation, sugar prices are continuously on the increase. In this situation, India's sugar exports are a valuable exchange earner. In the new International Sugar Agreement to be negotiated there should be an adequate quota for this Country and the price agreement should be at higher levels than what has been talked about so far. But within the Country, the rise in sugar prices is disturbing and affects the poor consumer seriously. In December and January sugar prices increased from Rs. 365 to Rs. 375 and on to Rs. 415 and Rs. 450 per quintal. The retail price has jumped from Rs. 3.50 to Rs. 4.40 per kg which is double the control price of Rs. 2.20. The causes for the price rise are the manipulation by market men and producers. The government's increase in excise from 30 to 37.5 per cent on free sale and the tariff from Rs. 260 to Rs. 270 per quintal have also contributed to the rise. There is also the slow and late start of the crushing season and a further fall in the recovery rate. With the lower excise on khandsari at Rs. 20-22 per quintal (compared to Rs. 101.75 per quintal on sugar) and its price being only Rs. 25 lower than that for sugar, there is large scale diversion of cane to khandsari production. The government must review the sugar production and prices and take early decisions on policy aimed at increasing production and controlling the price rise.

Newsprint and paper : The newsprint shortage continues and will continue during next year. There is a controversy between Indian and Eastern Newspaper Society (IENS) and STC as to the situation this year. STC computes that it will import 1.5 lakh tonnes of newsprint and with NEPA's production of 50,000 tonnes, the availability will be 2 lakh tonnes against the demand of 2.5 lakh tonnes. The STC's estimate of 1.5 lakh tonnes imports are made up of 70,000 tonnes from US and Canada, 50,000 tonnes from the Soviet Union, 10,000 tonnes from Bangla Desh and 10,000 tonnes from other East European Countries. IENS points out that only 80,000 tonnes has been or will be contracted for in 1974 and even their delivery will be delayed as happened in 1973. In January some imports arrived (1,800 tonnes which were unloaded and 2,000 tonnes on the way from the Soviet Union), all of which have been allocated. In the meanwhile the Development Council of the paper industry has recommended that there be no ban on the use of white paper by the newspapers. It supported the government's ban on export of paper. NEPA has been authorised to double its capacity to 500 tonnes a day at a cost of Rs. 30 crores which will help from the 4th year of the Fifth Plan. By then the

Kerala unit (70,000 tonnes) and Himachal Pradesh unit (60,000 tonnes) will begin functioning to meet the end of the Fifth Plan demand of 4 lakh tonnes. Both newsprint and paper prices are being revised upward. NEPA has asked for a little above Rs. 1,800 per tonne. The price of paper is being raised in line with the increased cost of raw materials. The Development Council has recommended specific quotas of white printing paper for the newspaper industry and the allocation of 50,000 tonnes in the first quarter of this year for book publishers, nationalised text books, school exercise books etc. The production pattern for 1968-69 has now been accepted by the Council for the coming year, ending the charging of premium on paper and the system of nomenclatures that resulted in varying prices for common varieties of paper. A joint council of producers, traders, official agencies and consumers will watch over this voluntary scheme of the code of conduct for the industry. In the meanwhile the newspaper industry will be passing through difficult times and the paper consumers will face higher prices and shortages.

Textiles : Textile production for 1973 was 7,500 million metres. The Fifth Plan target is 10,400 million metres which means an annual 10 per cent growth. But for next year there will have to be a 20-30 per cent increase to meet the augmenting internal and accelerating external demand. Here the mills modernisation programme referred to in Vol. II No. 12 pages 14 and 15 must be expedited. The spindle capacity has to be raised to 3,51,000 additional looms and composite mills must be introduced. There is no dearth of cotton supplies for this year and next to meet the increasing textile production demands. The mills are considering changing over to coal in view of the dearth and price of furance oil which makes coal firing 50 per cent of the cost of oil firing. The coal needs of textile mills however will be around 1.5 lakh tonnes per month and this will call for a regular wagon delivery system for the industry. The establishment of an integrated policy for textiles, was not possible in January. The present voluntary price stamping scheme on non-controlled cloth is therefore continuing till the end of March under which 100 million metres of controlled cloth are being produced. A number of issues in textile policy have to be resolved. A price increase on controlled cloth is overdue. The increase should be of the order of 20 per cent. The amount produced should be sharply increased to at least double the current level. Even if only one pair of garments is supplied to the 24 crores of people living under the poverty line 8,400 million metres of standard cloth per annum is needed against the current output of 400 million metres. Finally the export incentives policy in the context of the booming textile export market indicates that for textiles the policy should be nearer that followed for garments exports (See Vol. III page 793). In the meanwhile the production of textiles can continue to expand. The disturbed industrial relations in Bombay and Coimbatore in January constitute a serious obstacle to this perspective.

Fertilisers : As pointed out in the last issue, the most serious effect of the oil crisis will be on our food production via fertiliser availability. The 1973-74 demand for fertilisers is 39 lakh tonnes. About 50 per cent of this has to be imported. Against the Country's installed capacity of 22 lakh tonnes for fertiliser production, the 1972-73 output was 14.5 lakh tonnes. On the assumption that for this year domestic production will be 16 lakh tonnes and a further 16 lakh tonnes are imported, the total supply will be 32 lakh

tonnes against a demand of 39 lakh tonnes. But as pointed out in the last issue the import picture is bleak. US, Japan and all other countries except the Soviet Union and the East European countries have reopened the contracts that had been established for the first six months of this year involving 1.8 lakh tonnes of nitrogenous, 0.95 lakh tonnes of phosphatic and 1.36 lakh tonnes of potash fertilisers. Under these conditions the first thing to do is to increase fertiliser production in the Country which is around 50 per cent of installed capacity. The plants should be coal based as are the Talchar (Orissa), Ramagundam (Andhra Pradesh) and Korba (MP) plants which each have a capacity of 4,95,000 tonnes of urea. The unit cost coal based plants are higher (Rs. 554 per tonne of urea compared to the naphtha based Rs. 434 per tonne) but with the shortage of naphtha feed stock, more coal based plants need to be set up. Two are being so planned in Bihar and a third in Assam. The other bottlenecks to fertiliser production should also be attended to. State governments will have to assure priority to them in regard to their power requirements. One of the reasons for the under-utilisation in the capacity of fertiliser plants is is the reduction in their power supply. The other element which needs attention is to programme the time schedule for the delivery of indigenous equipment and machinery on which the timely use of the new plants including the 3 to be aided by Japan depends. Second, certain imports should be finalised. The MMTC has concluded an agreement with the Soviet Union for the import, starting in March and ending in December of 2,00,000 tonnes of urea, 75,000 tonnes of ammonium sulphate, 50,C00 tonnes of potash and 35,000 tonnes of asbestos at a cost of Rs. 65 crores. With Poland an agreement to import 1,00,000 tonnes of urea is likely to be signed. Japan should be further explored. Given the need to attain the production target of 118 million tonnes of foodgrains for this year, the use of organic manures should be further promoted. The potential for producing 6,000 lakh tonnes of rural compost and using urban compost, sewage and sullage irrigation should be fully exploited. Under the emergency organic manure supply scheme, farmers can lift free of cost manure formed of perpetual accumulation of the huge decomposed wastes in our cities. Municipal committees and city corporations should step up their compost production. In this campaign, panchayats, students, social organisations, farm and political agencies should all participate. Side by side there should be maximum emphasis on soil testing, weed control and economic use of fertilisers and manures. The programme should be for maximum use of organic manures jointly with economic use of fertilisers. Our crops remove annually from our soils 42 lakh tonnes of nitrogen, 21 lakh tonnes of phosphoric acid and 72 million tonnes of potash. Organic manures including plant residues return only 30 to 40 per cent of this annual depletion and chemical fertilisers put back another 10 to 15 per cent. So there is a continuing gap that we face between the fertility components we take out and those that we put in. There can be no let up in the use of manures — organic and chemicals — at this stage. Further, organic manures have to be supplemented by appropriate doses of chemical fertilisers to maintain soil fertility. Here the burning annually of some 200 million tonnes of cowdung, which, now with the scarcity of kerosene and for cutting back on its use, is bound to increase, bring in the question of trade off. Which is the effective use of crude products and cow dung—for domestic cooking or fertilisers—How much of one should be sacrificed for the other? In working the trade off, the complemen-

tarity of organic manures which should be pushed to the maximum and chemicals nutrients which can be maximised in output and use should be borne in mind and a simple euphoric approach to organic manures avoided.

Agricultural Production: As at early January, rice procurement was going well with attaining 1.8 million tonnes out of the 5 million tonnes target. Punjab had procured 6.51 lakh tonnes, against its target of 9.5 lakh tonnes, Haryana procured 2.66 lakh tonnes against its target of 3.5 lakh tonnes, UP's procurement is 2.7 lakh tonnes against the 3 lakh tonnes target which will be surpassed, and MP had procured 1 lakh tonnes against its 6 lakhtonnes target. Bihar and West Bengal were doing poorly with 2,700 tonnes and 32,000 tonnes against their targets of 1 lakh and 5 lakh tonnes respectively and Rajasthan had not started. But it was in coarse grains that the procurement was unsatisfactory. Out of a target of 1.65 million tonnes, by early January only 1.94 lakh tonnes had been procured—Punjab 60,000 tonnes against a target of 2 lakh tonnes, Haryana with nil against a target of 50,000 tonnes, MP, Bihar had not started, and UP had procured 44,000 tonnes against its 1.5 lakh tonnes target. By mid January both rice and coarse grains procurement were lagging behind in all States except Punjab, Haryana and UP. Against the 5 million tonnes target, 2.8 million tonnes of rice had been procured. The lag in coarse grains procurement was even more serious particularly in Gujarat, MP and Rajasthan. On the next round the fertiliser shortage has affected rabi crop prospects and the next Kharif crop needs to be safeguarded by action now. In fact in January the official food target was lowered from 114 million to 108 million tonnes. As pointed out earlier the increased use of organic manure which is essential cannot replace chemical fertilisers which is 20 times as effective as the former. With the completion of the Kharif harvest, Maharashtra reports satisfactory condition of rabi crops of jawar, wheat, grain and safflower. In UP the rabi crop faces a fertiliser shortage and the recent power cut referred to earlier threatens to reduce the output of its two fertiliser units. They should be given priority in power use. The potential is there for meeting our target with the Ludhiana farmer producing 28 quintals of wheat per hectare (one of the highest in the world) the average being 20 quintals per hectare (UP from 12 quintals) and with all the many new varieties of rice being used. What is needed is organisation and timely inputs. In spite of a good kharif crop, acute cereal scarcity conditions existed in Gujarat, Kerala and parts of Maharashtra, to which rice and coarse grains had to be rushed. In an effort to revive the trade channels, the Gujarat government rescinded upto February end its April take over of wholesale trade in wheat. As a result 2,000 wholesale traders began functioning and wheat began to flow into the market. In addition the Union government at the end of January relaxed the ban on inter State and inter district movement in coarse grains. This permitted Maharashtra and Gujarat to purchase coarse grains from Punjab and Haryana. Another development is the success of the integrated dryland agricultural development scheme under which 60,000 hectares of dry land farms have used the new dry farming techniques, involving an investment of Rs. 25 crores. The programme operated in the 24 districts with limited and uncertain rainfall in 12 States. In order to increase the pace of agricultural development both in the backward States and the Developed States, the Agricultural Refinance Corporation has committed Rs. 572 crores for agricultural development as at December 1973, on 1,069 schemes of which 627 were through State land development banks, 398 through commercial banks and 44 through State co-operative banks. The

schemes cover land reclamation, forests, storage, farm mechanisation, plantation and marketing. 25 per cent of the funds are being expended in the less developed States in the Eastern and North Eastern region. In Tamil Nadu, Andhra Pradesh, Gujarat and Haryana the schemes are also completed and will be so by the end of this year in Maharashtra and Karnataka. ARC is now setting up an evaluation cell with which the State bureaux of economics and statistics and the land development banks will be associated in order to assess the results from the investments made so far. The evaluation should cover also the work of land development banks who have loaned Rs. 1,100 crores to 2½ million farmers. But the rate of disbursement of both ARC and LDB's is low, being half of their committed funds. This also should be examined. For the Fifth Plan ARC plans to disburse Rs. 900 crores to further agricultural development.

Exports: Despite the good export performance for the first six months of April-September 1973 at a growth rate of 17 per cent analysed in the last issue (Vol. IV pages 130-132), the balance of trade registered a deficit of Rs. 42 crores for that period, compared to the surplus of Rs. 66 crores for the same period in 1972. This was due to the fact that imports grew faster at 31 per cent during the 6 month period, off-setting the favourable trade balance of Rs. 164 crores in 1972-73. One result is the decline in the Country's foreign exchange assets. Between April and July, RBI's foreign exchange reserves increased by Rs. 100.33 crores but from July they began decreasing, mainly because of the higher prices paid for imports of food, fertilisers, petroleum and its products, non-ferrous metals and steel. Between October 5 and November 9 the reserves declined by Rs. 54.19 crores. This unfavourable trade balance together with the strengthening of the dollar, to which reference will be made later, also led to fall in the value of the Rupee in relation to the US dollar. In mid January the dollar buying rate was Rs. 8.3977 and selling rate Rs. 8.4026. The pound sterling to which the rupee is linked fell by 20.4 per cent vis a vis the dollar, which was the highest devaluation of the pound since December 1971. The question of the Rupee's continued link with the pound and its effect on India's foreign trade position need continuous review. The composition of the Country's foreign trade in this case will be decisive. Taking the first three quarters of the year — April - December 1973, exports registered an 18 per cent increase and if this trend is maintained the year's export target of Rs. 2,072 crores could be exceeded. Jute exports are rising fast due to the oil crisis and the shortage and high cost of polymers and synthetic goods. The jute workers' strike in January reduced production. The 16 day loss till the end of January amounted to Rs. 25 crores. In the coming year jute exports could be of the order of Rs. 300 crores. Similarly Japanese steel mills are paying a 50 cents per tonne higher price for iron ore fines from April 1 and 80 cents more in lumpy iron ore. The present level of exports to Japan is 11 million tonnes. STC's January reports show a 40 per cent increase in its exports profits, unlike its earlier export losses. Its profit making exports include castor oil basumati rice, rubber and shoes, particularly to UK, US and Japan. Similarly textile exports are increasing at Rs. 193 crores for April—December 1973 to all countries in Europe and US, which are also arranging the shipping of goods. The 3 day week in UK was however a negative factor. Spices exports increased to Rs 18.7 crores in April—September 1973 from Rs. 11.5 crores in the first six months of 1972-73. The rise was 12 per cent volume and 60 per cent in earnings. Electronic goods, processed mica, leather, coffee and

engineering goods are also increasing as exports. There are possibilities of further expansion if the export constraints are removed. These include the bottlenecks in shipping faced by all our exports due to the high price and non-availability of bunkering oil, and the fact that only 1/5 of our exports are carried in Indian ships. There is also the continuing rise in domestic prices which reduces the inducement to export, and the need to streamline and simplify the export promotion agencies procedures and programmes. There is in one area where even this good export performance may be inadequate and that is relation to the escalating oil prices. Until last year the oil import bill was around 11-12 per cent of our export earnings at around Rs. 220 to Rs. 250 crores. Now it will be Rs. 1,000 crores which is 50 per cent of export earnings. In the Fifth Plan oil imports have been estimated at Rs. 2,981 crores, but at $10 a barrel it will be Rs. 7,560 crores and at the recently announced price of $11.65 per barrel it will call for 80 per cent of our export earnings. It is in this context that the Country will have to make a much higher effort at export earnings. It is in this context that the country will have to make a much higher effort at export earnings. The opening up of EEC countries for our iron ore exports, wherein 5,00,000 tonnes have been exported to them this year and 1.5 million tonnes will be next year (going on to 2 million tonnes in 1975-76) is encouraging. Against a target of 13 million tonnes at Rs. 83 crores, 13.5 million tonnes have actually been exported and 15 million tonnes contracted. Similar arrangements with Rumania, and other East European countries are being concluded. Under the India-USSR trade protocol. exports will be increased from Rs. 430 crores for 1973 to Rs. 670 crores for 1974 particularly in engineering goods, cotton textiles, ready made garments, garage equipment, footwear, cigarettes, surgical instruments, alumina, deoiled cakes, cashew, tea, coffee, spices, jute goods, and handicrafts. The trade agreement with Sri Lanka should lead to a joint policy on tea and rubber exports. The January agreement with Yugoslavia should also expand our exports in ship-building and steel. A special effort should be made to expand our exports to the oil producing countries of West Asia, with whom our exports currently amount to a mere Rs. 77 crores. With their large resources, a new range of demand from these countries can be met by us both by stepping up our exports and cutting back our domestic consumption, where necessary, particularly in cement, sugar, basumati as well as tea, spices, machinery textiles, transport equipment, iron ore and steel. In fact India can help these countries to set up mini-steel plants which they want and export large quantities of iron ore to them. Similarly joint projects in cement, vegetable oil plants and petro chemicals can be set up with Iran, Kuwait, Saudi Arabia, Abu Dhabi, Iraq and Libya. The aim here should be to increase five fold our exports to these oil rich countries. That should be the aim of the conference of Indian commercial representatives in West Asian countries that is being planned. This could also be the start of putting into effect the many declarations and plans of the non-aligned powers and the group of 77, for increasing trade among developing countries and promoting regional free trade arrangements which will give India and West Asia the power to negotiate with EEC and the more industrialised countries on mutual tariff reductions. The EEC agreement to reduce the tariff on unmanufactured Virginia tobacco exported from India to 50 per cent of the original tariffs with a quota of $30 million and the negotiations to admit blue wet chrome tanned duty free are a further step in applying effectively the GSP scheme to the developing countries. The Union government's decision to establish in the Ministry of Commerce a Department of

Export Promotion is timely. Its immediate tasks which will be to deal with the production aspects of the new export strategy, the supply of raw materials and inputs to export oriented industries and the speedy clearance of applications for increasing their capacity should be co-ordinated with the broader integrated policies which are the responsibility of the Department of Foreign Trade, the Ministries of Finance, Industrial development, Heavy Industries, Agriculture, Mines and Steel, Railways and Shipping. The export policy should be based on expanded production, stable prices, lower production costs, improved and increased shipping tonnage and modern marketing techniques. In other words the export expansion required must be a function of an all round development of the economy.

Aid: In January India and Japan signed an aid agreement for 22,000 million yen (Rs. 61.8 crores), comprising Rs. 42.1 crores of debt relief and Rs. 19.7 crores as commodity loans. The project aid of Rs. 98.7 crores for the setting up of the 3 fertiliser plants is still under negotiation. The Japanese firms who are to supply the machinery and equipment are awaiting the results of the oil crisis on the price structure and hence even the first plant to be set up this year has now been delayed. When the prices are established, it is likely that the yen credit of Rs. 98.7 crores which had been negotiated for repayment over 25 years at 7 per cent interest will prove inadequate and there will have to be a fresh round of negotiations. IDA has signed an agreement for a credit of $13 million (Rs. 10 crores) for the processing and marketing of the apple industry in Himachal Pradesh. The loan will cover 60 per cent of the project cost, the balance being provided by the Agricultural Refinance Corporation. Also in January the US House of Representatives foreign affairs committee began its hearings on the PL 480 agreement reviewed in the last issue (Vol. IV page 132). Its discussion focussed on the balance of payments advantages which would accrue to the US from the agreement when ratified. The US executive planned to bring the agreement into force on February 19.

International :

Bangla Desh: The place of the jute in Bangala Desh's export strategy discussed in the last issue (Vol. IV pages 132, 133) continued to be the subject of review at a meeting in January of planners from the two countries and the subject of negotiations with EEC. India has for this year agreed to buy 2,00,000 bales of Bangla Desh jute at a price higher than the domestic price by Rs. 50 per bale, costing Rs. 5.76 crores. This is a one shot agreement and the delivery will be completed by April 15. The discussion between the two countries highlighted the fact that for the present India is the only source for Bangla Desh's urgent needs for coal, cement, cotton, yarn, transport equipment and textile machinery. The only major means of payment it has is jute. Newsprint and fish are very much lower down the line. Its Five Year Plan's raw jute export target is 5 million bales by the end of the Plan period, which is an increase of 1.3 million bales over the average 1965-70 exports. The jute industry is located only in the two countries, so India must take the increased jute exports as payment for the imports Bangla Desh needs. As a short term policy this is all right, provided steps are now taken by Bangla Desh to diversify its economy with results in its Second Five Year Plan. It also means that West Bengal should divert to rice some of its jute growing land – a division which is in its own interest. Bangla Desh is having a hard time negotiating a jute agreement with EEC which wants it to follow the Indian agreement. It has requested a

10,000 tonnes quota of jute yarn and 7,000 tonnes for carpet backing. But the jute lobby in EEC has blocked an agreement on these lines. Bangla Desh has therefore had to traverse the same slow route as India for a 2 year agreement retroactive from January 1. Like India it will receive tariff reductions within the GSP scheme for an initial 6 month period. Meanwhile its duty free jute entry into England and Denmark continues in 1974. This is a case where a joint India-Bangla Desh approach to EEC would have strengthened both India and Bangla Desh but the technical and non-technical conditions for such an approach were absent. The Indo-Bangla Desh joint Rivers' Commission has begun work on developing the Water resources of the Ganga-Brahmaputra-Meghna basins. The programme which is an integrated river development plan includes construction of storage dams in the upper reaches of the rivers in India which will control floods and regulate and provide perennial irrigation facilities to farmers in both Countries.

World Monetary Reform: There were five major developments which were in effect the background to the January meeting of the Committee of 20 in Rome, the Committee set up by IMF to plan the reform of the World Monetary System. First the restriction on oil supplies and the rapid rise in oil prices which were referred to earlier. As a result, industrialised countries face an oil import bill of $ 50,000 million a year with a dramatic unfavourable impact on their balance of payments position. This makes difficult one of the key elements in the monetary reform proposal, that of ensuring that countries keep their balance of payments in some sort of equilibrium. The problem for now is how to attract back funds from the oil producers to the oil consumers and how to help those countries which will fall into serious debt. The developing countries will face an additional balance of payment burden of $10,000 million this year. The effect of this oil situation was felt sharply at the Rome meeting of the Committee of 20. The meeting divided between those like the US and West German representatives who stated that the first task is to bring down oil prices as a pre-condition to monetary reform and the Arab countries' representatives who insisted that the oil price rise was not the major issue but the general world wide inflation of capital and consumer goods prices. The second event in January was the steady rise in the open market price of gold which remained above $130 per ounce through January and actually jumped to $158 per ounce on January 21, as a result of the floating of the French Franc the previous day. The resulting demand for gold cover pushed up gold prices, and brought gold back into the system as the prime means of currency hedging. There was also the resultant vicious circle wherein the weak currencies like the UK pound grew weaker as there was no demand for them, all surplus funds being invested in gold or the strengthened US dollar. The third development was the decision of the French government to float the Franc for a period of 6 months from January 20. The French Franc thus joined the UK pound, the Irish pound and the Italian lire in floating freely against dollar, independently of the EEC countries. As a result of the float, the French Franc was devalued by 5–6 per cent throughout January, with Bank of France entering the market to prevent a further fluctuation either way. Seven West European countries (West Germany, Belgium, Netherlands, Luxemburg, Denmark, Norway and Sweden), met the next day and decided to continue the system under which their currencies will not fluctuate by more than 2.25 per cent from one another but will float freely against the dollar. Some immediate effects of the French float, were the Spanish govern-

ment's decision on January 22 to float the Peseta, and the fears of similar action by Germany and others of the group of 7 who have for the moment decided to follow "the snake" system, the popular term describing the action of the Seven. The fourth event in January was the effective devaluation of the Yen by 6.42 per cent on January 7 as a result of the rate of 300 yen to the dollar instead of the prevailing 280 yen announced by the Bank of Japan. The Bank of Japan had intervened in the market since November when the yen value of the dollar fell from 270 to 275 and later to 280, selling $2,000 million to support the yen. Its foreign reserve declined from $19,067 millions in February 1973 to $12,246 millions in December 1973. It expects its oil bill this year to amount to $14,000 million. When the French Franc was floated, the Tokyo foreign exchange market was closed for three days and a further devaluation of the yen was expected as of the end of January. The fifth development was the continuing upward movement of the US dollar and the weakening of the pound. Being largely self sufficient in oil, the US is in a favourable position on the energy front and along with a massive favourable trade balance, the decline in the dollar's exchange value was reversed and it emerged as one of the strong currencies. At the end of January, its value rose to 2.675 Duetsch marks (against the previous 2.3 Duetsch Marks). The reasons for this strengthening were many. The most important was its record trade surplus in December ($942 million, resulting from a small 2 per cent increase in its exports with a sharp 11 per cent decline in its imports), and a favourable trade balance of $1,680 million for 1973. This was a reversal of the previous two years' deficits, the 1972 deficit being the largest one in this century at $6,360 million. The other major cause was the oil crisis which relatively has hit hard the West German and Japanese economies, whose strong currencies had depressed the exchange value of the dollar. Japan has had to cut back on its production boom and West Germany has had to lay off over 6,00,000 of its workers. Holders of large international funds are therefore moving back into US dollars on the assumption that the US economy will withstand the oil crisis better. It is true that the USA is dependent only to the extent of 20 per cent on oil imports, and within that percentage to the extent of 10 per cent on Arab oil which was denied to it through January. But as and when the Arab oil boycott is lifted and the US economy also faces the rising cost of imported oil which the 1973 trade figures do not reflect, the US also will face a trade deficit. That is one reason why the US representative took such a strong stand at the Rome meeting on the roll back on oil prices being a pre-condition of monetary reform. During January the UK pound continued to decline from $2.50 per pound in early 1973 to $2.16 in January 1974. Even at this rate the Bank of England had to step in and sell its dollars to keep the pound from falling further. Due to disturbed industrial relations in coal mining, UK was in for a 3 day week in January with factories laying off 7,50,000 workers, in addition to the 4,50,000 previous unemployed. British economists predicted that if the 3 day week continued, more than half its work force of 27 million wage earners would be unemployed. It will be noted that the oil crisis has left UK relatively unhampered because of the agreements made with the Arab countries to supply oil in return for its machinery and consumer goods exports. Its domestic production recession, its labour unsettlement, its large balance of payments deficit in October amounting to £298 million, all contributed to weakening its currency. This five point background was not the most auspicious one for the Rome meeting of the Committee of 20. Its decisions were

minimal and its major decision was one deferment. It decided to extend the period for establishing a reformed monetary system by a year, that is to mid 1975. It agreed that at least this additional year is needed in order to allow for the relationships between currencies to take into account the many new factors that will affect their trade, capital inflows and outflows and financial relationships. In light of this agreement to postpone monetary reform to 1975, two minor decisions were made. The first is that the Special Drawing Rights (SDRs) is to be delinked from gold and based on a suitable mix of currencies and guaranteed against devaluation. There was no agreement as to what these currencies would be and what interest rate this monetary asset should carry. These details are to be worked out at its next meeting in Washington on June 12 and 13. In the discussions at Rome, one criteria for choosing the currencies was that they should be from those countries which have at least one per cent of the world volume of exports On this basis 14 currencies emerged; US, West Germany, Japan, UK, France, Canada, Italy, Netherlands, Belgium, Sweden, Australia, Denmark, Saudi Arabia and Austria. France was opposed to this basket of currency proposal because of its traditional preference for a gold base. The second decision was to strengthen the International Monetary Fund through the setting up of a board of governors composed of finance Ministers. Here again, the details have to be worked out and it is hoped that the Board will consist of just 20 ministers and not the 150 ministers and officials who attend the Committee of 20 (See Vol. III page 798). While not agreeing to the recycling plan to finance the effect of the oil crisis on the balance of payments of the developing countries, the Committee members decided not to implement policies aimed at countering the effects of the crisis by actions that would harm others, in particular devaluations and trade restrictions which will simply be competitive and counter productive. The decision included an appeal to the developed countries not to reduce their aid efforts and to the oil producing countries to spend part of their additional earnings on the development of the developing countries. The IMF will be extending special financing facilities to non oil producing countries like India but if the loans are extended on commercial terms they will not be of much help. It is to be hoped that the Fund and the World Bank can devise a system under which loans will be on soft terms. The basic issue now in regard to monetary reform is whether it should precede or follow the stabilisation of the world economic situation. This has become the dividing line between the developed countries who want to see the world economic situation stabilised, oil prices rolled back and their balance of payment position protected and the developing countries who see world monetary reform and the use of SDRs as a means of aiding their development, particularly of the non-oil producing developing countries and as the means of attaining world economic stability. Here the oil producing countries with their large surplus reserves will have a key role to play. By channelling their reserves through the World Bank and IMF they can help resolve this controversy and ensure both monetary reform and world economic stability. The period between now and the next June meeting of the Committee of 20 is crucial in arriving at an agreement on those issues.

World Growth and Aid: The World Bank's preliminary assessment of oil prices trend until mid December is that public capital inflow into the developing countries will be offset by their increased oil import bill, leading to reduced growth rates. With the further rise in the oil price from

1 January, it is certain that this forecast will worsen even further. The developed countries' economic growth will also be slowed, decreasing the export earnings of the developing countries. On the basis of the price of $8 per barrel, the bank computed that the developing countries will pay $27 billion for their oil in 1980 compared to $5.2 billion they spent in 1973. In particular, countries like India, Pakistan and Bangla Desh with slower export growth rates would face a more unfavourable payments balance than countries like Brazil, South Korea and Mexico which are fast export growers. In this assessment that is being considered by the World Bank's executive directors, India's oil import bill will rise form $415 million in 1973 to $1,030 million in 1975 and to $3,650 million in 1980. In this situation, the Bank assumes that the developed countries will not reduce their aid which forms a small part of their increasing GNP. The Bank appealed to these countries not to reduce their aid. It is clear however that the developed countries will not increase their aid to help the developing countries pay for the higher oil import bill. On the other hand the revenue of the 11 oil producing countries (OPEC), according to the Bank will rise from $22,700 million in 1973 to $85,000 million this year to $1,00,000 million next year and $1,71,000 million in 1981, if there are no further rise in oil prices. As a result there will be wide ranging structural changes in the world economy. The grants, loans and investments to developing countries in 1973 amounted to $8,000. The 1974 cost of oil imports to the developing countries which will amount to $17,000 million will be double the inflow of capital and grants into these countries. To this should be added the escalating shipping and freight costs, further increasing their total bill. And as noted earlier the rich countries are likely to reduce their aid to the developing countries because of the rising oil prices. This actually happened in January when the US House of Congress refused to honour the US pledge of $1.5 million which was its share of the fourth replenishment to IDA. This contribution was already a compromise to be spread over 4 years, while all other countries pledged their contribution for 3 years. It will be recalled (Vol. III page 714) that after long negotiations with the donor countries, the World Bank President announced at Nairobi the agreement on the fourth replenishment of IDA at $4 billion. The action of the US House of representatives which in the previous month voted the same amount $2 billion to improve the war making powers of Israel is perhaps an indication of the place of aid in the priorities of the most affluent countries. The donor countries are meeting to consider the effect of the US Congress action on the future of IDA. Plans are also being worked out to channel some of the large reserves that the oil producing countries are accumulating to increase the aid flow into the developing countries. One plan is that put forward by the OPEC countries to start a development bank which will finance the development programmes of the developing countries. Details will have to be worked out about the terms and procedures on which the OPEC Bank will provide long and medium term loans and their soft or commercial terms of lending. There is also the proposal of the World Bank that it should be used to channel the surplus revenues of the oil producing countries for the development of under developed countries. And then there is the plan produced by OECD in January proposing the circulation of surplus funds among the countries which produce oil, the industrialised countries which pay for it and the developing countries which can benefit from it, if invested in their development. The OECD computation is that of $ 50,000 million oil revenues of the OPEC countries, they will

not be able to spend more than $ 10,000 million as imports and domestic investment and the balance should be available for investment in the third world. This issue of aid and oil prices is part of a larger issue of international co-operation or international bickering. The US initiative in calling for a conference of the 62 affluent consumers (US, Canada Japan and ECM countries) could lead to co-operation, if there is agreement for a general roll-back of all prices, capital goods, machinery, consumer goods as well as oil. The prices of wheat, corn and soyabeans exports from the US increased 300-400 percent in one year and this the developing countries had to face and pay for. The stakes of the developing countries in this discussion are high. On the one hand the rise in oil prices has more than wiped out all the foreign aid that these countries receive, on the other hand the industrialised countries are going to be increasingly preoccupied with their internal and external problems. The role of the oil majors in this mess also needs examination. In evidence before the US Senate Committee, executives of $ 100 billion oil companies confirmed that the cost of producing a barrel of oil is only 4 to 6 cents a barrel and that the companies are selling this oil now at $ 11.65 per barrel. It was these companies, in order to set off their taxes and royalties in Saudi Arabia against domestic taxes and so escape the taxes under the tax law which they helped to write, that persuaded Saudi Arabia and Iran to raise prices. The companies are now said to be embarrassed at their high rate of profits – ranging from 60-70 per cent. So the role of private enterprise in the oil industry needs to be defined more carefully and certainly their actions as much as those of the oil producing governments will be under public scrutiny from now. Even without these oil repercussions, the UN report to the General Assembly refers to the International development strategy of this second development decade remaining a wish and not being translated into a policy. During the first two years of the Second decade, the developing countries averaged a 5.5 per cent GDP growth, with a per capita average of 2.5 per cent, compared to the strategy's target of 6 and 3.5 per cent respectively. Agriculture suffered from unfavourable weather in this period and the continuing structural deficiencies. Industry grew at the targetted 8 per cent but its base was small and its links with the rest of the economy inadequate. Export performance at 5 per cent, was not only below the targetted 7 per cent but even below the 6.6 per cent of the sixties. The terms of trade deteriorated by 8.5 per cent in 1971 but recovered by 6.1 per cent in 1972. If to this is added the sad fact that the aid target, which by 1975 was to be 0.7 per cent of the GDP of the developed countries in Official Development Assistance (ODA), is not even half of that target at 0.34 per cent, there is reason to be somewhat depressed over the first two year's performance of the Second Decade.

World Energy : All consumer countries are taking steps to cut back on their oil consumption and to find substitutes for oil as energy. The pressure arises immediately from the price rise but also from the long run need to combat the pollution caused by the excessive use of oil. For the developing countries coal and solar energy should be immediately harnessed to meet their energy needs. The largest investment in substitute energy and less reliance on imported energy is in the US where the debate is on as to whether the cost of the programme which is computed at $ 150 billion is not in the nation's interest. Without this effort, it is computed that the energy gap will grow to 12.3 million barrels a day by 1982 and the trade deficit will be $ 15.5 billion, dwarfing the 1970–72 deficits commented on earlier. Under this programme, the governmen

programme of around $ 40 billion spread between now and 1980 and the private investment of $ 110 billion would develop new technologies for varying forms of energy which will commence to pay off from 1977 and will reach its normal full result from 1982. Similar efforts are being mounted by Japan, West Germany and UK. For the developing countries, there is one advantage. They are consuming only 10 per cent of the world oil output, and it should be possible to reduce this even further by relying for their petrochemicals on oil and turn to substitute energy for all other puprposes.

World Food : There are varying estimates of the world food supply for this year and the next. A recent study concludes that there will be a sharp reduction in food production in those countries—and they are the majority—who have copied the American system of agriculture, which requires an energy equivalent of "80 gallons of petrol to raise one acre of maize". Another bottleneck would be the difficulty of bringing more acreage under HYV which calls for more fossil fuel. In fact one statistical computation is that using US technology to feed a world population of 4 billion (around the turn of the century) would call for 4,88,000 million gallons of crude—a rate which will empty all the oil wells in 20 years. Further the farmer today under the spur of the so called green revolution is using more energy to produce less food. In place there is need for increased use of green and organic manure in place of such total reliance on chemical fertilisers, hand spraying instead of aerial spraying, manpower instead of machines to make agriculture effective and efficient. The energy input-output ratio in UK is 2.0 for grains 1.08 for barley and 0.16 for eggs. Replacing men and horses by machines, UK spends 47,000 million calories of fossil fuel energy to obtain just 35,000 million calories of food. While the crop production per acre is high in the US, when measured against the energy input, India and China are ahead of the US. Agricultural energy requirements for India are computed at 2.4 million tonnes of oil equivalent in 1973, which is a five fold increase from 1960. This trend must now be stopped.

World cotton exports: World exports of raw cotton were again very high for the second year (See last issue, Vol. IV page 135) at 2.4 million bales, making a total of 20.7 million bales. For this effort all countries—US, Socialist and non-socialist countries were equally responsible. This 13 per cent increase in exports was shared by US (5.3 million bales), Soviet Union (3 million bales), Western Europe (6,73,000 bales) with heavy imports into the Asian markets.

World Steel: World Steel production increased by 10.65 per cent or 66 million tonnes to 695.8 million metric tonnes in 1973. United States headed the production table with 136.5 million tonnes, followed by the Soviet Union with 131 million tonnes, Japan 119 3 millions, West Germany 49 5 millions, Britain 26.7 millions and France 25.3 millions. The effect of the oil crisis on this year's steel production can only be evaluated after July. There is a declining demand for steel in the consumer durables and automobile manufactures, domestic appliance production etc. On the other hand there is a greater demand for steel for capital investment goods like offshore drilling rigs, pipelines, storage tanks and unclear power stations. Steel production is itself hardly free of oil products as an energy and raw materials source, but its backward and forward linkages may result in oil prices affecting steel making processes and marketing trends.

World Illiteracy: UNESCO's recent report shows that the total number of illiterates in the World has increased to 800 millions and is continuing to increase. Since 1950, the absolute number of illiterates has increased by 100 millions, though the percentage has dropped from 39 per cent in 1960 to 34 per cent in 1970. In terms of the massive nature of the illiteracy problem, the 8 year functional literacy programme of UNESCO just ending in 15 countries has had a qualitative but no quantitative effect.

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II Agricultural Development

Paddy:

As reported in the last issue (Vol. IV page 138), the crop prospects in the State are rather mixed. The tank fed samba crop in Salem, Dharmapuri and parts of North Arcot has been affected by the partial failure of the North East Monsoon. The low water storage in the Mettur reservoir (referred to earlier in the State section under Power) is insufficient for meeting the demands of ryots for the Thaladi paddy crop in the Thanjavur district. Normally the drawal from the reservoir is closed on January 31 and despite the demand in February, given the small inflow of 50 to 100 cusecs per day, water drawals were restricted to 2 wettings in early February, when the level declined to 5 metres. This water shortage has hit the farmers at the same time as the fertiliser shortage faces them as analysed in the last issue (Vol. IV page 136). In this situation there are short term and long term measures to be taken. Immediately the HYV area and yield for this year should be safeguarded by conservation and post harvest storage measures. Further, the dry crop and the samba crop in other districts which have benefited from the late rains in December should similarly be maximised and the shortage of fertilisers compensated by spreading the use of certain agronomic practices like closer planting, weed control and greater use of green manure. In the long run there is need for further shortening the paddy duration from the present 105 days to 90 days which will enable all of Thanjavur's 15 lakh acres and not only 4 lakh acres as at present to be brought under the 2 crops system. There is also need for what is called a multi-pronged nutrient supply to the paddy crops to be developed to compensate the fertiliser famine that we will be facing. The training of the farmer in water management, pest control, weed eradication and animal husbandry is a slow process which must be undertaken now to meet the State and Country needs for foodgrains. The levy on purchases and movement of foodgrains as reported in the last issue is proceeding apace. The Food Corporation of India has been asked to collect the levy paddy in Thanjavur and South Arcot districts. Thanjavur already has a network of collection centres (See Vol. III page 799) and in South Arcot centres have been set up at Chidambaram, Vriddachalam and Cuddalore taluks. The State government has requested the Union government's permission to increase the procurement prices for superfine variety of

rice from Rs. 73 per quintal to Rs. 78 per quintal and fine varieties from Rs. 70 to Rs. 75 per quintal. This will be both a fairer return to the farmer and facilitate procurement. The government has despatched 2,000 tonnes of rice to Gujarat at the end of January in response to the appeal from that government and has also agreed to send 5,000 tonnes of coarse grains in two month's time when they would have been procured. Todate the State has supplied 9,300 tonnes of rice and 8,000 tonnes of coarse grains to Gujarat.

Other Foodgrains :

HYV Cumbu, HB-3, is taking on fast. As at early January 6.8 lakh acres were covered under the cumbu crash programme. This should reverse the declining and stagnating trend that the State has been experiencing in this foodgrain in the past 2 years. The pulses programme is also being extended. Against rhizobium culture flasks distributed to cover 50,000 acres last year, this season 2 lakh acres have been covered by the flasks for the growing of pulses. As a result a 10 per cent increase in pulses production is expected this year. Side by side there is need to evolve better techniques of milling and processing the harvested pulses as a means of increasing the quantity and improving the quality of the crop.

Cane :

Sugarcane production in the State is increasing as pointed out in the National section and sub-section Sugar. The cane prices payable by the co-operative mills were raised in January by Rs. 5 per tonne over the price fixed by the Union government (See last issue, Vol. IV page 145) involving the mills in an outgo of Rs. 1 crore for the season. The joint stock mills also agreed to pay similarly Rs. 5 per tonne more than the price fixed by the government, involving them in paying an additional Rs. 260 lakhs to the growers. Late in January the final prices in the State to be paid by the factories to the cane growers were settled at between Rs. 7.80 to Rs. 14.40 per tonne above the Union government price. The Minister of agriculture who was mainly responsible for this agreement announced the following prices for each factory against the government price shown in brackets: EID Parry Rs. 90 (Rs. 80.90): Cauvery Sugars Rs. 92.50 (Rs. 80); South India Rs. 91.60 (Rs. 83.80); Aruna Rs 95.30 (81 9); Sakthi Rs. 102.90 (88 50); Kothari Rs. 100 (85.60); and Arooran Rs. 92.50 (80). The additional commitment involved in these prices is Rs. 4 crores. In addition, it was decided to evolve a profit sharing formula between the factories and cane growers to be applied on a long term basis from the current sugar year. This is a somewhat different situation from the problems analysed by the Sugar (Bhargava) Committee in U.P. (See Vol. III page 483).

Research Results :

The Tamil Nadu Agricultural University has made available to the farmers some important information on the economics of weeding as a result of a 2 year research project which covered experiments with irrigated rice, cholam, maize, ragi, and sunflower using the appropriate fertiliser doses. The weeding operations showed (a) higher uptake of nutrients by the weeded plant by 100 per cent in the case of rice and 50 per cent in the case of ragi, maize and cholam, compared to unweeded crops (b) a higher grain yield 100 per cent for rice, 60 per cent for cholam and sunflower and 30 per cent for maize (c) the avoidance of the weeds nutrients exhaustion ranging from Rs. 170 to Rs. 350 per hectare (d) the extra return per hectare being 2,100 kg of grain for hand weeding and 2,800 kg. for chemical weed-

ing with the value of Rs. 1,260 and Rs.1,680 in the case of rice, 1,270 kg, and 1,360 kg. with the value of Rs. 635 and Rs. 680 for cholam, 1,256 kg and 1,376 kg with the value of Rs. 628 and Rs. 688 for maize, 693 kg and 733 kg with the value of Rs. 693 and Rs. 733 for sunflower and 2,936 kg and 2,390 kg with the value of Rs. 1,468 and Rs. 1,195 for ragi. Except in the case of ragi, the value added by hand weeding is twice that of non-weeding and becomes 3 to 4 times where chemically treated. But here the trade off must be brought in. The costs of chemical weeding are based on pre oil-crisis prices. In addition to the price question, the whole input-output relation in terms of energy has been reviewed under the section International, World Energy sub-section. What can be established clearly for the farmers is the high pay off from weeding with particular reference to hand weeding and the more general gain to the farmer in keeping the plant nutrients in the soils and not having them eaten away by weeds. The second aid to the farmer and all those engaged in agri-based industries was the Tamil Nadu Agricultural University's making available six simple pieces of equipment devised in its agricultural engineering department. The first is a groundnut grader which grades about 600 kg of groundnut pods per hour and which will speed the mechanical shelling of the graded groundnuts. Second the maize sheller, electrically operated, shells 300 kg of kernel per hour and reduces the costs to 1/5 of that of manually operated shelling. Here again the trade off in terms of employment should be considered. Third the cotton acid delinting machine produces a 10 per cent increase in germinating material and saves Rs. 43.75 in seed rate per hectare. It can delint 20 kg of seed in 10 minutes. The fourth equipment is a thresher which threshes 1 tonne of paddy in 10 hours and can be used on both long and dwarf varieties, saving 50 per cent in cost over conventional practices. The fifth piece is a multi purpose sheller which can be used for groundnut or castor pods and its out-turn is 260 kg. per hour at 1/20 in cost of manual shelling. The sixth piece of equipment is the mechanical chillies drier which reduces wastage in chillie drying and helps to raise its price. Another important research result is the shift of the criteria of high yielding coconuts from quantity to quality. On the basis of successful developments in the Philippines and Indonesia, the farmer is now being slowly weaned from judging the value of the species by the number of coconuts yielded and induced to concentrate attention in its copra yield. This involves selection of mother palms for genetic breakthroughs, a certain dosage of NPK varying with soil and plant variety. A coconut industrial complex is being set up in Thanjavur at a cost of Rs. 8 lakhs to streamline the use of coconuts and its bye-products. This project will have wider effects as Thanjavur is the premier district in the State with 34,458 acres under coconut and 34.8 lakh trees.

Forestry :

The government following the recommendation of the State Planning Commission, proposes to set up a Forest Corporation for taking up the afforestation of 65,000 hectares in the State. This would be the start of a forest development programme for the State.

Dairying :

The Tamil Nadu Dairy Development Corporation (See Vol. IV page 33) as part of its programme to increase the supply and distribution of milk and milk products—milk powder, butter, ghee—started in January a mobile milk bar. Ten bars have been set up in different crowded parts of the city and are served by a van which

provides the bars with a continuous supply of hot, cold and flavoured milk in bottles or paper cups.

Poultry Farming:

The State Bank of India is successfully financing both dairy development and poultry farming in Chingleput District. Particularly in areas where weavers are congregated and where due to scarcity of yarn, handloom weaving has ceased to be paying, poultry farming is fast developing as an important substitute income to the farmer and his family and an employment avenue for the SSLC graduates in the village. In 2 villages financed by SBI, there is today a daily production of 4,000 eggs bringing a gross return of Rs. 1,200 and a net daily income of Rs. 300 to be shared between 40 farming families. The Bank has ensured that the State Poultry Development Corporation provides the feed for poultry regularly and collects the eggs at the doors of the farmers. In the case of the SSLC graduates, they are trained in poultry keeping at Asthinapuram and at the government farm at Kattupakkam and then helped to set up their poultry units. The Bank reports that poultry finance is a sound banking operation, with less overdues at 8 per cent than in the case of crop loans.

Fish Farming:

Fish output for this year in the State stands at 3.5 lakh tonnes—2 lakh tonnes from the coastal region and 1.5 lakh tonnes in inland waters. Poor as this record is, even so the State stands second in the Country, next to West Bengal, in fish output. During the coming period, the Fifth Plan, fish production will be doubled in the State. This is more ambitious than the national target which is to move from 22.69 lakh tonnes this year to 30.8 lakh tonnes at the end of the Fifth Plan. The State target can be achieved with the participation of fishermen, co-operatives, panchayats and farmers. There is a serious gap to be traversed in inland fisheries where our production is 20 to 30 kgs against the Japanese production of 1.500 kgs.

Rubber:

Rubber production in this State and the Country faces a sellers market. With the oil crisis, the demand for natural rubber to replace costly synthetic rubber together with the rapid increase in internal demand indicate that rubber consumption will go up from 1.48 lakh tonnes in 1973 to 7 lakh tonnes in 1990 and to 15.50 lakh tonnes in 2000. For this State and Kerala this means not extending the area so much as breeding new varieties, selecting better clones improving methods of extraction and processing latex. The December 1973 Rubber Planters' Conference in Kottayam noted that whereas our average yield of rubber is 730 kg per hectare, we have high yielding clones which can yield 4,000 kg per hectare, which Tamil Nadu and Kerala plantations should use in their 1.8 lakh hectares replanting programme. In fact instead of waiting for 7 years after planting, the Kottayam Institute is opening new perspectives in developing an early maturing, disease resistant rubber plant which can start yielding in the second or third year and at its maximum in the fifth year yield 10.000 kg per hectare. In other parts of the Country like Karnataka, Assam, Tripura, Goa, Maharashtra, Andhra Pradesh and Orissa, some two lakh hectares of new plantations can be developed. The past record in rubber production is good—from 15,000 tonnes in 1950 to 1.12 lakh tonnes today, from 63,000 hectares to 2.12 lakh hectares and 320 kg of rubber per hectare to 730 kg per hectare—but this provides no guide to future developments in production which have to increase in geometric proportions.

While thus the supply is being expanded, it is important that the demand should also be accelerated, not for natural rubber, but for rubber manufactures. Here there is a large unmet demand – both internal and foreign—for motor tyres and tubes which must be met through expansion of capacity of existing firms and establishing 2 new public sector firms. For the moment there is a surplus of supply over demand of raw rubber of the order of 1 lakh tonnes and this excess should be used for exports in part and use in other areas such as replacing bitumen in road making.

Tea :

Tea production in the South showed a slight increase in 1973 at 101.6 million kg compared to 101.3 million kg during 1972. But tea exports from Tamil Nadu, Kerala and Karnataka declined from 96.7 million kg during January - July 1972 to 88.6 million kg in the same period of 1973 due to (a) labour trouble at the Calcutta port (b) the Indo-Sudan trade stalemate (See Vol. III page 635) and (c) the cut in power supply. The forecast is that given the bottleneck in shipping, the difficult bunker oil and bunkering facilities position and the fall in export prices, the second half of 1973 will not show an improved export performance. The total world production of tea for the first 11 months is estimated at 783.6 million kg which was 19 million kg higher than the first 11 months of 1972. The major part of the increase came from North India (13 million kg) followed by Kenya (2.9 million kg) and Bangla Desh (2.7 million kg). During this 11 month period, South India 94 million kg and Sri Lanka at 194.2 million kg were stagnant. The prices at the Cochin auctions were 27 paise lower than in 1972, at Coonoor 55 paise lower, and so too at Colombo. Now there is need to expand production in Tamil Nadu and the South and increase the value of their exports. To do this the area under plantation must be expanded but even more, higher yields must be obtained through intensive cultivation, better application of fertilisers, extensive use of pesticides, changing the pruning cycles and more research. Such a programme will not only increase the product but improve the quality and that alone will ensure the stopping of the declining price trend. The price trend could also be reversed if the rates of taxation are adjusted to promote self generation of funds, excise duties are standardised, export rebates in bulk and depreciation on standing bushes are allowed, if institutional finance is provided on easy terms for replantation and extension, with regular supplies of fertilisers, fungicides etc. and if there is a price support for tea as demanded by the estates staff. The cost of production in many medium yielding estates is Rs. 5.50 per kg. against a price of Rs. 5-6 per kg. The consumer pays about Rs. 10 per kg. the difference going into the pocket of the middlemen. In this situation the suggestion that the support price should be Rs. 1.50 above the cost of production seems reasonable. This may in part compensate for the decreased exports expected during the last quarter of this year, when the oil shortage will begin to bite. The declining price trend in exports caused by supplies outrunning demand may also be arrested. Also the FAC is helping to arrive at an international commodity agreement on tea under which tea exports will be regulated replacing the ad hoc annual quotas such as the 6,57,000 tonnes fixed for 1973-74 and the 6,81,000 tonnes for 1974-75. In the end it is the productive efficiency of our plantations which will determine their profitability. Here there are three schemes operated by the Tea Board which are becoming increasingly popular and which have received the approval of the Commerce Ministry. The first scheme is the plantation finance scheme under which the

Tea Board offers loans for replanting, replacement and/or extension at the rate of Rs. 7,400 per hectare for gardens in the plains and Rs. 9,900 per hectare for hill gardens. In response to cost escalation, the government has now raised the loans to Rs 11,450 and Rs. 13,750 respectively, which are made on the basis of both the repayment capacity and the development profile of the applying garden. The second replantation subsidy scheme is operated by the Tea Board financing replanting at the time the bush begins to decline as measured by its yield. Here again a differential loan is made between plains and hills and the amount of the loans has been raised recently to Rs. 4,000 and Rs. 8,000 per hectare. The third scheme — the tea machinery hire purchase scheme is the most popular of the Tea Board schemes as machinery replacement improves quality and yield of tea and ensures an immediate return. The combined effect of the 3 schemes is positive in terms of volume of production and quality of the tea produced.

Coffee :

The Coffee crop for 1972-73 of around 90,000 tonnes referred to in the last issue (Vol. IV page 140) will involve an export of 60,000 tonnes valued at Rs. 45 crores. The World output for 1973-74 is estimated to be 1/3 below the 1972-73 at 2,00,000 metric tonnes, with sharp reductions in Brazil due to frost damage and in Ivory Coast and Mexico due to drought. Exports are forecast at 2,40,000 tonnes but prices have been pushed up by Brazil, so that India's exports have become very attractive with Arabica Cherry now selling at Rs. 10,000 per tonne instead of Rs. 8,500 which even at that price was 25 per cent higher than domestic prices. In this situation, the increased exports this year should be diverted to the free foreign exchange trade area, leaving the Rupee trade area at last year's level of 25,519 tonnes valued at Rs. 15.1 crores. The higher export earnings will also enable the Coffee Board to pay a higher price than the current Rs. 3.50 and Rs. 3.70 per point to the large and small planters respectively. In return, the Coffee Board can and should release a larger amount of coffee seeds and powder directly through the Board's depots and less through middlemen. The ratio of 1:35 could well be reduced to the benefit of both the grower and consumer.

Agricultural Financing :

The annual report of the Tamil Nadu Co-operative Central Land Development Bank as at June 30, 1973, reports Rs. 103 crores as outstandings, Rs. 128 crores as debentures against a share capital of Rs. 6.37 crores and a reserve of Rs. 2 63 crores. It has 11 district branches and 223 primaries to speed up the processing and disbursal of loans. It is the first bank in the Country to start a stabilisation and failed wells fund which under its statute requires that 15 per cent of its profits to go into the former and 10 per cent into the latter,—the failed wells fund. The Bank will be lending to promote sprinkler irrigation which has not yet caught on in this State and which has multiple advantages—being cheaper than levelling the land, making possible economical use of water and acting as a defense against frost. To date 500 lift irrigation societies have been proposed. The government having approved 160 of them, the bank finances the wells of the societies each of which services 5 acres of land. The Bank is also planning to diversify its lending activities, as the minor irrigation programme is alleged to be reaching saturation as far as loans are concerned. Other activities that it will be financing include dairying, fish processing, agro-industries, the development of coconut, arecanut and rubber plantations and with the help of ARC cocoa, grape and tea

plantations. While this diversification is needed, it is not true that the minor irrigation programme has reached a saturation point. The Study made by this Institute on the subject, Minor Irrigation and Productivity in Tamil Nadu, shows that the State and the small farmer have a long way to go before such a point of diminishing returns in minor irrigation is reached. This programme for the development of wells financed by the Tamil Nadu Co-operative Land Development Bank comes from the Rs. 46 crores IDA credit earmarked for diverse land development work in selected areas in 7 districts. Out of this fund Rs. 34 crores is for minor irrigation and as of January only Rs. 15 crores had been disbursed. Some part of the delay has been due to the rule imposed by IDA that the loan should not be used for digging, or deepening wells except at a certain distance from each other. This has now been straightened out with practical experience. Another hold up has been the power situation. Now in addition to speeding energisation, the bank gives an additional Rs. 1,000 per well for installing diesel pumps. On the basis of the experience to date, the World Bank and the Union government are planning to extend the coverage of the loan to the entire State. This would be one means of more rapidly aiding the small farmer wherever he is found in the State and not only in the seven selected areas.

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III Industrial Development

Salem Steel :

For the first year of the Fifth Plan, Rs. 15 crores have been provided for the continuing work on the alloy plant. Both in Salem and in the other two southern steel plants at Vishakhapatinam and Vijayanagaram (which have been allotted Rs 5 crores each), the priority is for the setting up of the plant. The township with its housing and other needs are to be taken up as and when the plant staff also increases.

Neyveli :

The time lag between approval and actual execution in the case of Neyveli is inexcusable As reported in the last issue (Vol. IV page 147) Rs. 6 crores this year and Rs. 30 crores in the Fifth Plan have been provided for modernising the equipment to expand lignite production to 6 million tonnes. Now though the State government, the management and the Union government department are agreed on ordering the equipment from West Germany, the Union Planning Commission is dragging its feet because it has an agreement with East Germany and wishes to consider letting this project out to East Germany. Meanwhile every day's delay makes the State's power situation more difficult. It is essentiul that the contract with the West German institution be passed and the equipment delivered. Similarly the switchover to fuel oil for the two 50 MW generators will be completed in July (See Vol. III page 802) and whatever the shortage in fuel oil, this conversion will have to be honoured. Similarly in January, the State government and

the Union Planning Commission have agreed upon the need for the second mine cut at Neyveli and for its inclusion in the Fifth Plan. Here again the Union Department and the State government are in complete agreement and in fact the Department has been pushing this project. It is hoped that all the paper work on the project can be completed within the next 6 months, so that the project can start in the first year of the Plan.

Ores:

Certain areas of Salem, Dharmapuri and Coimbatore are being subjected to an aerial electromagnetic geophysical survey to detect occurrences of base metals. In an earlier survey, 140 million tonnes of iron ore have been located in Tiruvannamalai. Sixteen tonnes of sample iron ore from here are in Australia for ore dressing and benefication tests, On this basis the State government has asked for the Union government's approval for setting up a sponge iron project using Tiruvannamalai ore and Iranian naphtha. In return, part of the sponge iron could be exported to Iran. Also the deposit of pyrochlore containing niobium, tantalum and uranium has been located and further work on it is being done by the Atomic Minerals Division. Further the vermicellite deposit near Sevathur and the zinc, lead, copper deposits near Mamandur are being worked by the Bharat Gold Mine (See Vol. III page 722). As a result of the aerial survey, 15,000 geochemical soil samples will be collected from the 3 districts and analysed to identify copper, lead, zinc, nickel, molybdenum and arsenic. The survey will be completed by July and the interpretation by the end of the year.

Fresh Capital consents:

3 units received in January consent to raise capital amounting to Rs. 3.45 crores. Vikrant Tyres, Madras is issuing capital for Rs. 270 lakhs divided in 27 lakh equity shares of Rs. 10 each. Sundaram Industries, Madurai has issued Rs. 60 lakhs bonus shares in the ratio of one share for every 3 equity shares held. Lakshmi Vilas, Karur issues equity shares of the value of Rs. 15 25,040 at a premium of 1 Re. per share of Rs. 10 each.

Electronics:

The State government's special electronics estate at Adyar (See Vol. III page 578) will benefit from the Department of Electronics scheme under which at a cost of Rs. 30 lakhs (75 per cent of which is provided by the Union government department), the complex will have a testing and development centre in electronics. The Centre will also undertake development work for the small and medium electronic units which cannot afford each to have a testing of its own and R & D facility. During the Fifth Plan period, 12 such centres will be set up in different part of the country.

SPIC:

SPIC's fertiliser complex is aiming at being commissioned by May in order both to keep to and improve its schedule and earn the development rebate which expires in May. By early January 80 per cent of the construction of the ammonia and urea plants was completed and with the assurance of naphtha and fuel oil by the Union government, its fertilisers will be ready for distribution for the next kharif season. It will use 0.75 to 0.80 tonne of naphtha for one tonne of nitrogenous fertiliser (unlike the normal 1 : 1 ratio) and so the feed stock in fuel production of 280,000 tonnes of naphtha and 1,70,000 tonnes of fuel oil will be used economically. The cost of the project has increased from its original Rs. 75 crores (See Vol. III page 647) to Rs. 83 crores and will go up

further, *mainly* because of increased transport and freight charges. But the viability of the project is untouched. Against the rise in the price of its feedstock, its produce price has risen even faster. It based its project on a price of Rs. 600 per tonne of urea. Urea is now being imported at Rs. 1,500 and the indigenous price has been fixed at Rs. 900 per tonne. The other bottleneck to our fertiliser plants — the utilities—has been well cared for—water, supply of high pressure process and feed steam, water treatment and effluent disposal. They have all been completed well and ahead of schedule. Even in regard to power the plant is very largely self sufficient with its own steam generation unit (See Vol. III pages 647 & 805 and Vol. IV page 38). With the support and encouragement of the State government, SPIC has applied to the Union government for a second fertiliser unit at Cuddalore at an estimated cost of Rs. 140 crores. This will have to be negotiated as part of the Fifth Plan programme.

Towards more rapid industrialisation:

At the January Conference of State Industries Ministers, the Minister of Industry from this State made a number of procedural proposals to accelerate the pace of industrialisation: (a) once a letter of intent is issued, the license must rapidly follow; (b) State governments should be allowed to take over monopoly houses, and the management of industries which have expanded beyond their licensed capacity; (c) SIDCOs which are handicapped for lack of resources should be allowed to raise funds from the market, and this should be outside the State's ceiling on market borrowings; (d) in order to ensure some order and equity, the allotment of raw materials to all the industries in the State should be by one agency in the State—rather like the small industries Directorate which performs this task for the small industries; (e) the Union government should finance the State governments' providing facilities on behalf of the Union to convert semi-finished into finished leather for the small tanneries. Until such provision is made the small tanneries should be allowed to export semi-finished leather. The State government should pool these exports and send them out in bulk; (f) the Union government should allot to the State governments the entire foreign exchange requirements for the projects in the States to speed their implementation. It is unlikely that some of the important suggestions such as the facility of SIDCOs to borrow from the market or the allotment to States of the foreign exchange requirement of approved projects will be accepted by the Union authorities, (though, as noted earlier, Maharashtra has also made the last request to the Union Planning Commission), They represent however the lines along which decentralized industrial development which both the Union authorities and the State governments want can develop.

Industries and the Oil crisis:

In January the industries in the State were not as yet affected by the oil crisis. All industries including the Cement factories received their supply of furnace oil at the normal rate of 1.08 to 1.17 lakh kilolitres. Kerosene was normal at 65,000 kilolitres except towards the end of the month when the 15 per cent cut began to take effect. Petrol consumption at 10,000 kilolitres against 15,000 kilolitres declined by 30 per cent because of the rise in prices. HSD offtake at 78,500 to 92,000 kilolitres was normal. At the ports, ships which had contracts with IOC received their normal bunker fuel, others were given fuel to the next port of call. Cooking gas at 30,000 tonnes was normal but no new demands were entertained. It is in February and

later that the effects of the oil shortage will begin to be felt by the industry. Meanwhile IOC is doing a good job in balancing its supplies vis a vis the demand.

Pumps:

The State produced this year about 8 lakhs of power driven pumpsets out of the all India production of 25 lakh sets. Given the priority of agriculture and food production, the rural electrification and energisation of pump sets programme will be continuing without let or hindrance. The industry needs a steady supply of pig iron, dynamo grade steel, and coke at relatively stable prices. One of the proposals under discussion is the establishment of a research and development wing in the industry located possibly at Coimbatore, to improve the efficiency of pumpsets and so save on the energy used.

Cloth:

January which is the Pongal and tourist season in the State witnessed a mixed demand for textiles. On the one hand the demand for mill made cloth declined by 40 to 50 per cent compared to January 1973. On the other hand the demand for Khadi goods increased by 100 per cent and handloom cloth by 70 per cent. The main reason for the fall in demand for mill made cloth was its high price which ranged from 30-40 per cent in the case of sarees to 100 per cent in the case of dhoties. The combination of high price of Egyptian cotton and some falling off in consumer preference for terene and other superfine varieties is leading to this stockpiling of mill-made textiles.

Yarn:

In the yarn field also a very peculiar situation – which is contrary to the shortage and scarcity of yarn supply that every issue of Vol. III dealt with—has developed. The yarn trade has been saturated with stocks, sales are slow and prices in January fell by 50 per cent of the November prices. A series of events have now caught up with the mills—the major suppliers of yarn. They include the ban in exports of yarn, the rejections of the exports by Bangla Desh and Japan because of the poor quality, the Supreme court decision upholding the Union government's yarn policy, the good cotton crop and the mills' demand declining because of high prices. This situation with accumulation of yarn stocks in the spinning mills and no buyers is so different from the situation till early January when the weavers were complaining of non-availability of yarn. On the one side the mills, whose cost of production is 15 to 25 per cent above the controlled price, are not willing to sell and are not unaverse to closing down for some time, while the weavers on the other hand are waiting to see prices fall further. Under these conditions the voluntary price control and distribution scheme favoured by the Union government does not make sense. Under this scheme the mills are to fix reasonable prices for their various categories of yarn, the traders would take only 2 per cent and on this basis the present price control is to be removed. This will not function The January meeting of spinners and weavers called by the Union Commerce Ministry brought out into the open the many violations of the voluntary scheme by the spinners, textile mills and black marketeers. One immediate step that can be taken is to remove the ban in exports for counts above 17s, The real solution is that put forward by this State government—namely, for the State government to be empowered to procure and sell yarn at fixed prices. In this way there will be no periodic scarcity or glut in yarn supply and the price will be fair to both spinners and weavers. In January, the Expert (Santhanam) Committee on the

handloom industry in Tamil Nadu to which reference was made in Vol. II No. 10 page 24 and Vol. III page 115 submitted its report. Its recommendations include the following: (a) massive support to the weavers as they represent 10 per cent of the work force with 4 lakh handlooms; (b) the State should produce or procure the raw materials of cotton, silk, synthetic yarn, chemicals and dyes and store them in places accessible to the weavers; (c) price should be fixed for a year on the basis of the average of the last quarter of the previous year allowing for a 10 point rise during the year; (d) of the total 480 lakh kg of cotton yarn needed by the handloom weavers, 144 lakh kg is available from the co-operatives and the State Textile Corporation mills—the rest should be obtained by a levy on the private mills; (e) similar arrangements should be made to ensure supply of synthetic yarn; (f) a government agency should be established to procure and distribute all the yarn, zari, silk, dyes and chemicals needed by the weavers. To start with, it should have 2 months supply. It should buy 5 lakh kg of silk from Karnataka, similar amounts of Zari from Surat and 118 kg of man made fibres; (g) distribution should be through a pass book to each weaver which will record the issue of yarn, production of cloth, wages, advances, recoveries, savings etc; (h) the proposed State handloom board should keep in close touch with the Handloom Export Promotion Council and the Tamil Nadu Handloom Finance and Trading Corporation. The Tamil Nadu Handloom Weavers' Co-operative should establish a co-operative marketing system just for handlooms (i) the following should be reserved exclusively for handlooms: sarees, dhoties, lunghis, bed sheets, carpets, tapes, counterpanes, towels and crepe cloth. To prevent power looms entering this field, a duty of Rs. 100 per small power looms and higher rates for larger ones are recommended together with exemption of handlooms from the levy of octroi, and making the excise on power loom cloth equal to that of mill made cloth; and (j) comprehensive legislation to create a non-lapsable handloom fund instead of an annual budget allotment, with a State and Union government contribution of Rs. 6 crores per annum to help in the development of a healthy and sound handloom industry in the State. The report has thus a wide ranging series of recommendations. The ones on which immediate action should be taken is the setting up and operation of the fund and the steady and continuous supply of the industry's inputs. The long run action calls for joint decision by the Union and State authorities.

Leather:

Four developments marked the leather trade and industry in January. First the government increase of the export duty from 10 to 20 per cent ad valorem on tanned and untanned hides, skins and leather caught 3,000 bales of leather awaiting shipment in Madras harbour, involving them in serious financial consequences. All export formalities had been completed for their shipment but the lack of shipping facilities led to their still being in the port. There is a case for exempting from the tax those who had registered with STC before December 1. With the 3 day week in UK and slackening of production in Europe, exports at higher prices are bound to decline. Second at long last the inter ministerial differences over aiding the leather industry have been resolved albeit with the less satisfactory of the two alternatives as analysed in Vol. III page 189. There are to be two agencies. The Union Commerce Ministry's Leather Export Corporation which has a large task before it. It can make leather exports the second largest exchange earner, doubling the present Rs. 150 crores,

which is possible with the raw material and technology available in the State and Country but for which there is need for developing and marketing techniques which will be the responsibility of the Export Corporation. The Corporation is sending out market study teams to examine the fashion and quality trends in potential markets to gear our production to the foreign demand. The other agency is the Union Ministry of Industrial Development's Leather Development Organisation, which is to provide the climate for massive investment needed to develop the industry. The Union Ministry is thinking of importing technology and equipment from East European countries for this purpose. This is sound but the major reliance should be on our equipment firms and on our technology. In fact it is the delay in moving on this development front that was the third factor which led in January to the State Legislature unanimously adopting a resolution urging the Union government to permit small tanneries in the State to export all their semi finished hides and skins until they are provided with finishing facilities. Now the leather trade—especially the small tanneries—finds itself in the position of not being able to export their goods (semi-finished), and not having the facilities promised to them for producing finished goods. Out of 350 tanneries, 248 are said to have suspended operation and the rest are working below capacity. The State Assembly has suggested that the Union and State governments jointly set up the finishing facilities. At least the tanneries' application for import of machinery should be speedily processed. The fourth event was the 11th International Leather Fair at which a symposium and an industry and CLRI get together were arranged. A wide variety of Leather garments and goods were on display. The Union minister of industrial development once more stated that his ministry would be setting up a number of finishing centres for small producers. These centres would provide the equipment, technology and where necessary the raw materials at low rates. Now these promises must be turned into action.

Private Sector Reports :

The annual report of the Sree Meenakshi Mills explains its poor performance for the year in terms of the losses following the power cut, the delay in modernisation and rehabilitation of the plant and disturbed industrial relations. The report also refers to the many times that the mill resorted to the Supreme Court including the last occasion when it lost its appeal against the control prices of yarn (See Vol. III pages 803-804, Vol. IV pages 39-40). The annual report of the Loyal Textile Mills refers to the expansion and modernisation programme undertaken with the financial help of IFCI, NIDC and TNIIC Exports of yarn during the year amounted to Rs. 22.31 lakhs and the dividend declared was 20 per cent. A number of diversification projects—manufacture of sewing threads, setting up a processing plant etc.—are under study and feasibility reports in preparation.

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IV. Education, Science and Health

Student Unrest :

Anti-social elements exploiting occasions of student agitation, looting and destruction of property and students taking part in such agitations for causes extraneous to education were the January occurrences in Gujarat, Punjab, U.P., and Rajasthan. In Gujarat where violent agitation had been going on for a number of weeks against rise in prices and lack of foodgrains, the students in Ahmedabad stoned business establishments, attempted to set fire to a police Chowki and hijacked a score of municipal buses. Students in Surat defying a ban on processions joined in violent agitation demanding the resignation of three MLA's. At a meeting held in the Senate Hall of the Gujarat University, students pledged to sacrifice their studies in order to agitate to secure the necessaries of life for the people, supporting the food riots in the State. Students from Patiala, Sangrur, Ludhiana etc. in Punjab held demonstrations in Chandigarh to support the striking agricultural Inspectors and for the release of the General Secretary of one of their unions. Along with the general agitation against the rise in prices and foodgrains shortage, the students in Navarangpura (Gujarat) resorted to violent demonstrations protesting against increase in the hostel mess charges. In U P students supported by some political parties and organisations engaged in demonstrations for the establishment of a University in Rohilkhand. In support armed students in Moradabad raided the Railway station, disrupted telephone connections and attempted to set fire to part of the building. In Lucknow a 1,000 strong group of students supporting the demand, damaged buses and Fire Brigade vehicles. The Campus of the Bombay University was the scene of violent incidents when students demanded the scrapping of college preliminary examinations prior to the University examinations. The students' demand was conceded at a meeting of the Principals of colleges. In support of the strike of the private school teachers, students in Jabalpur joined the agitation. And so it went, involving universities and students in continuing unrest in some States.

Education Reform :

According to an opinion survey conducted by Loyola College, Madras, (covering 890 teachers and 3,700 students on educational reforms), 80 per cent of the students and 68 per cent of the teachers state that they do not support Tamil as the medium of instruction in colleges. The minority supporting the Tamil medium suggest its gradual introduction and are against the compulsory element. 70 per cent of the students who studied in Tamil medium schools and joined English medium colleges are opposed to Tamil as the medium of instruction. This result is related to the absence of Tamil texts in most subjects and the prestige value of English for employment purposes. The survey also showed that 65 per cent of the students and 79 per cent of the teachers want the introduction of the semester system and a large majority advocated co-education. But while the men teachers supported co-education, the women teachers are generally against it. Another feature is that an overwhelming majority of teachers (84 per cent) are for a system consisting of both internal and external assessments in examinations. Sixty five per cent of teachers and 76 per cent of students are against the government taking over the private colleges. There is scope for more of such studies which would

enable the planners to know the opinion of the teachers and students about the proposed reforms.

Technical Education :

The Government of India has under consideration the appointment of a high-power medical education Commission to study the various aspects of restructuring medical education. Such a study would enable the Central and State governments and the medical scientists to reorient medical education. The Tamil Nadu Agricultural University has decided to affiliate the Madras Veterinary College to the Agricultural University. This is a move which will facilitate the Agricultural University's function of co-ordinating research in crop farming with that of animal husbandry.

Science :

In view of the energy crisis, the Prime Minister addressing the Indian Science Congress in January called upon the scientists to undertake research for harnessing energy from new sources. The more efficient ways of using the available energy by introducing the appropriate technologies was emphasised. Attention was called to the fact that the National Committee on Science and Technology had formulated projects for extraction of energy from wind-power, geothermal sources and the sun. The need for partnership between science and government for such developmental projects was necessary. Suggestions for a Council for mathematical sciences with advisory powers and the establishment of centres for research in pure and applied mathematics were made by the President of the Indian Science Congress Association in his address. A further suggestion was mass education in mathematics which would have the advantage of building a large base of students from which would come new mathematicians. In connection with the energy crisis, it may be recalled that the J. C. Ghosh Committee set up immediately after independence in 1948 had recommended that the Government set up a coal complex containing (1) a low temperature carbonisation plant for producing domestic coke (2) another plant for converting the by-product coal tar into chemicals and (3) a third plant to gasify the by-product char fines and then use the gases to produce synthetic crude. Although the recommendations were accepted and a coal complex site at the Raniganj coal field was selected, the plan was dropped because the government decided to establish refineries. Later in 1958 the Ghosh Committee data was updated, but when oil was discovered in Naharkhatia and Ankaleshwar, the proposals were again shelved. Coal technology thus remained without much government support. If the recommendations had been implemented, India would have been in the forefront of coal technology today. The CSIR has been encouraging coal studies in CFRI and at RRL in Hyderabad. The RRL set up a pilot plant to gasify Andhra Pradesh coal to produce domestic coke and the CFRI scientists succeeded in liquifying Assam coal to produce oil, (as noted earlier) and develop some special catalyst. It is estimated that seven year gestation period will be required to obtain the full-scale design data. This waiting period would have been saved if the original recommendations for a coal complex had been accepted. The need for bringing industrialists and research organisations together for the development of industries was emphasised at the CSIR industry get-together organised by the CSIR and the city chambers of commerce and industry. The Director General of the Council of Scientific and Industrial Research offered to the industrialists and entrepreneurs four CSIR formulations, viz. (1) to help to

prepare the report for a project (2) on the basis of the CSIR establishing a proving plant—bearing equally the loss if a failure (3) and on the basis of a guarantee with a warranty from technical consultancy service and (4) on as is what is basis. This offer of the CSIR should be welcome to the industries and should be availed of for technological development. The State government's programme to expand the Vikram Sarabhai Instronics Campus in Madras and the proposal to set up a duty-free 100 per cent export-oriented electronic complex near Meenambakkam air port will have the effect of accelerating the electronic components industry in Tamil Nadu. About 15 components for electronic systems are now being manufactured in the State. The Elcompo Electronic Industries (Private) Ltd., Adyar, has been able to manufacture TV deflection coils for the first time in India. The indigenous manufacture of TV deflection coils would save foreign exchange to the tune of 25 lakhs. The capacity of this industry is now 50,000 numbers per year which will be expanded to 1,00,000 during the Fifth Plan.

Health:

As part of a project for providing medical facilities, improving the general health and environmental sanitation, educating the mothers etc. the Indian Red Cross Society with the co-operation of the State Social Welfare Department, has opened a nutrition-cum-day-care centre for the children and mothers living in the tenements on East Cooum River Road, Chintadripet. The Centre is housed in a small building provided by the State Slum Clearance Board. At present 30 children between three and five years are admitted to the Centre and provided with free uniforms. The State Education Minister in inaugurating the Centre stressed the need for the physical and mental development of children within the age of eight years for their growth. Owing to financial constraints, the State will not always be in a position to sponsor welfare measures to the extent desired. Heuce the association of private welfare agencies with government departments for initiating such measures is to be welcomed. The State Minister for Health has announced that the government proposed to set up factories in three places in the State for the manufacture of vitaminised tin food for supply to school children to combat malnutrition. The pilot project for the processing of 'Vin' has been launched in Gandhigram in Madurai district (See Vol. II No. 3 page 7). This vitaminised mineral-rich food is to be manufactured from groundnut and locally available cereals. A 140 crore package programme consisting of six services to benefit children upto the age of six and expectant and nursing mothers covering about 10 million women and children has been announced by the Government of India. The six services under the programme are supplementary nutrition, immunisation, health check-up, ante-natal and post-natal care for women, nutrition and health education and pre-school education. Our family planning objective in the State is to reduce the birth rate to 32 by 1973-74 and to 25 per thousand by the end of the Fifth Five Year Plan (See Vol. III pages 145,431). In Tamil Nadu Mass Vasectomy Campaigns have been conducted in 1972-73 in 10 districts viz. Chingleput, North Arcot, South Arcot, Coimbatore, Madurai, Ramanathapuram, Salem, Tiruchirapalli, Thanjavur and Tirunelveli, for 50-60 days each. In all these districts except Ramanathapuram and Tirunelveli the number of vasectomy operations have exceeded the targets—with Chingleput leading. The total of vasectomised persons in the 10 districts is 2,42,138. Out of 2,38,688 operated, the highest number 63,773 is in the age-group of 45–49 years.

and the frequency distribution according to their wife's age is highest in 35-39 (wife's age group). 49.7% of the sterilised persons are illiterates and 75% have income below Rs. 1,000/- per annum. Regarding finance, for the intensive drive period the patient is paid Rs. 60/- as against Rs. 30/- in the non-intensive period, drugs Rs. 10/-, diet Rs. 21/- and allowances to para-medical staff Rs. 9/- (a total of Rs. 100) is sanctioned by the Government of India. The other payments of Rs. 3/- per case to the Doctor, Rs. 10/- to the motivator and other miscellaneous items are met by the State government. During the non-intensive periods the sanction from the Government of India is Rs. 35/- per case. The General Hospital, Madras has been always overcrowded in recent years. Even with restricted admissions, the hospital now has over 1,900 in-patients against a bed-strength of 1,556. This long felt need to relieve congestion is to be met by the erection of an annexe, a multi-storeyed hospital complex with 700 beds, at a cost of Rs. 56 lakhs. The first and second floors of the building are expected to be completed by the end of 1974. New specialities like nephrology, vascular surgery and haematology are to be started in the new building and also an Intensive Medical Care Unit to handle emergencies. A Poison Information Department is also planned. Incidentally the people of Tamil Nadu, Punjab and Haryana, are getting the best medical care from their respective governments according to the Indian Medical Association.

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V. Employment

For the year 1972-73, employment in the organised sector rose by 4.1 per cent compared to the previous year's increase of 2.8 per cent according to the Director General of Employment and Training. (See Vol. III pages 588-589). The nnmber of employed increased from 180 80 lakhs to 188.25 lakhs during this period. These returns are based on the analysis of its employment market information programme which covers the entire public sector and the non-agricultural establishments in the private sector employing 10 or more persons. Four States, Maharashtra (1.1 lakhs), UP (95,000), Bihar (78,000), and West Bengal (65,000) account for half of the 7.5 lakhs increase in employment. In these States the higher employment was due to higher levels of construction activity, sugar production, and additional jobs in the service sector like teachers. The public and private sector growth in employment during the year was much higher at 5.1 and 2.5 per cent compared to 4.5 and 0.1 per cent in 1971-72.

The unemployment problem is probably the most neglected problem in the Country. The Bhagavati Committee attempted one estimate of those who are straight non-employed (See Vol. III page 750). Since then there has been no follow through, and the draft Fifth Plan produced long after the Bhagavati Committee's report makes no reference to it, and does not attempt to quantify the unemployment problem facing the Country. The State's perspective Plan does attempt some quali-

fication and recommends a programme to deal with it. Meanwhile strikes and agitations are on the increase. The All India Federation of University and College teachers went on strike on January 15 to press for improved emoluments and service conditions. It had of course no effect on the position of the educated unemployed except to add to their numbers. Colleges and Universities were closed on that day and M.A. and M.Com. exams in Calcutta scheduled to begin on that day were postponed. In the South there was no strike in Karnataka and Kerala, while Tamil Nadu had its pongal festival at that time. Once again Kerala has developed an imaginative scheme for the educated unemployed. At an area near Calicut, the Kunnatara Unemployed Welfare Association has been formed with 200 members ranging from those with the 7th standard to M.A. and M.Sc. qualifications. Each member has agreed to contribute Rs. 5,000 if the government would locate one industrial unit in the village. The inspiration for this project came from the December experience when for the job of a peon, 8 persons applied and each was willing to pay Rs. 6,000 as a bribe to get the job. Hence lots were drawn to select the man. This showed that there were resources in the area which can be turned to equity capital for operating a medium or small industry in which one of the term lending institutions should also be involved.

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VI. Other Items

Indian Economic Association:

The President in consultation with the Honorary Secretary (See last issue, Vol.IV pages 157-157) established the Association's programme of work for 1974 as follows:

A. 57th Annual Conference:

1. Negotiations with Dr. V. K. R. V. Rao on:
   dates—December 27-29 and 1-2 Day Seminar December 30 & 31 on Teaching of Economics in India
   Local Secretary and Arrangements
   (By 25th January)

2. Circular to all members about
   Venue
   Dates
   Subject
   inviting them (a) to contribute papers by 1st August
   (b) to notify Secretary by end of February of intentions, and
   (c) to pay their subscriptions, if outstanding
   (By 1st February)

3. Invite authors for 1 or 2 key papers on the three conference topics:
   (a) Recent trends in Welfare Economics
   (b) Price Policy in India
   (c) Regional Economic Development in India
   (By 1st February)

4. Select three Rapporteurs for three subjects

(By 15th February)

5. Select current topic, subjects for informal sessions and public lectures

(By end of August)

6. Correspondence with Local Secretary on Conference programme and arrangements

(February to December)

7. Arrangements for the Seminar
 —Papers
 —Director and Rapporteur

(By end of August)

8. Arrangements for Annual Meetings of Executive Committee and of Members

(See Item C)

9. Arrange Railway Concession for travel to Bangalore

(By August)

B. Constitution:

1. Finalise establishment of Trust with Maharashtra or Tamil Nadu Government

(By end of February)

2. Apply for and obtain tax exemption

(By end of March)

3. Meetings of Constitution Sub-Committee with such members of Executive Committee as can attend

First Meeting—Bombay—February 20th

Second Meeting—Delhi—March 25th

Third Meeting—Hyderabad—April 2nd

Fourth Meeting—Bombay—May 9th (or Madras)

4. If possible questionnaire to members on major constitution questions after first meeting with replies by March 15th and tabulated for second meeting

5. Rules of the Association

(By end of June)

6. Circulation of Draft Constitution to members

(By end of July)

C. Annual Meeting of Executive Committee and Members

1. Preparation of Draft Agenda and Papers for Executive Committee to cover

(a) Report of the Association for 1974

(b) Draft Constitution

(c) Proposals for President for 1975

(d) Venue and Subjects for 1975 and 1976 Conferences

(e) Budget for 1975-76

(f) I.E.J. Report

(g) Audited Accounts for 1973-74

(By end of October)

2. Preparation of Draft Agenda and Papers for Annual Meeting of Members to cover

(a) Report of the Association for 1974

(b) Adoption of Constitution

(c) Election of President

(d) Election of Executive Committee and Editorial Board of I.E.J.

(e) Venue and *Subjects* for 1975-76 Conferences

(f) Budget for 1975-76

(g) Audited Accounts for 1973-74

(By end of October)

D. Membership Drive

1. Letters to old Members who have ceased to be members

(February and March)

2. Letters to prospective new members

(February-April)

3. Letters to Institutional members

(February and March)

E. Financial Drive

1. Rs. 1 lakh endowment—Negotiations with ICSSR

(March)

2. Rs. 5,000/- grant to I.E.J. from Reserve Bank of India

(February)

3. Rs. 5,000/- grant from Ministry of Finance due for three years

(February—April)

4. Rs. 10,000/- (foreign exchange) grant from ICSSR

(February and March)

5. Rs. 9,500/- U. G. C. grant for December 30th Seminar on Teaching of Economics

(February and March)

6. Advertisements for I.E.J. from Banks, Governments, Book-Sellers and Publishers and Universities

(February—December)

7. Other Sources

F. Establishment of Budget for 1974-75 and Draft 1975-76

1. Establish Budget for 1974-75 and circulate to members of the Executive Committee

(By end of March)

2. Establish Draft Budget for 1975-76 for annual Executive Committee and Meeting

(By end of August)

Both to be based on:

Income

(a) Interest on Rs. 1 lakh endowment

(b) Subscriptions for Journal

(c) Membership subscription

(d) Grants from Reserve Bank of India Ministry of Finance ICSSR

(e) Interest on other investments

(f) Other Sources

Expenditure:

(a) Journal

(b) Seminar

(c) Local Office (Assistant, Steno, Secretary and Postage)

G. International Relations

1. Membership of International Economic Association

(February—June)

2. Invitations to Dr. Sraffa and Mr. Samuelsen

(February and March)

3. Invitation to International Economic Conference to hold Congress in India in 1980.

(February—June)

H. Other Projects

1. Means of Activising Ex-Presidents and Ex-Secretaries to more active support of the Association
   (March–October)
2. A Newsletter
   (March)

I. Local Office

1. Request Mr. Naqvi for
   — remaining files
   — circulation of minutes of Tiruchi Executive Committee and Annual Meetings
   — List of Old and New Members
   — Bank Accounts
   — Arrangements for audit of accounts from 1st June 1973 to 31st May, 1974.
2. Request Dr. Lakdawala for Journal lists of subscribers and any other lists.
   (By 1st February)
3. Open Bank Account
   (By 1st February)
4. Appoint Assistant and Stenographer
   (By 1st February)
5. Print Letter Heads
   (By 20th February)

Subscribers to the Bulletin are invited to join the Association as members on the payment of Rs. 20/- as annual fee or as life members on the payment of Rs. 300/- as a lumpsum. Application for membership and a cheque for the fee should be addressed to the Honorary Secretary, Dr. V. Shanmugasundaram, Prof. and Head of the Department of Economics, Madras University, Madras-600005.

Agricultural Economics Research:

The Tamil Nadu Agricultural University called in late January a 2 day Seminar in Coimbatore on priorities for Agricultural Economics Research in Tamil Nadu. The Seminar was attended by economists from the State and outside and an equal number of specialists in the agricultural and engineering disciplines. The major conclusion was the need to develop research concepts and tools which are inter-disciplinary and which are appropriate to our economic situation where the free market and high income consumers are not dominant. Its recommendations *for the priority areas of research included:*

Input-output relation for crops, livestock, fisheries etc. activities.

Cropping pattern in relation to national and State objective.

Mixed farming

Multiple Cropping

Farm Forestry

Price Policies and parity prices

Marketing Systems—Factor and product markets

Capital formation

Farm Management

Trade Off

Resource development and management
Land and Water management
Human Capital

Area approach to development including agri and agro based industries.

It was also agreed that the University should develop into the focus for all agricultural economics research in the State, that it should encourage such research in the Universities and serve as a co-ordinating agent with the help of an advisory council. Its Staff organisation

and library will reflect this orientation. On this basis the University will be using the IDA credit for expanding and strengthening its agricultural economics research department.

Foreign Collaboration :

The South India Chamber of Commerce and Industry in co-operation with the India Investment Centre and SIPCOT organised in Madras a seminar at the end of January on foreign collaboration. The general consensus of the seminar was that foreign collaboration had played a key role in the industrialisation of the Country and would continue to be of importance in the future. Foreign collaboration was not a one way movement of technology flowing into India. Slowly but increasingly Indian technology was flowing out to other countries through collaboration signed by Indian firms with African and other Asian firms and governments. There was also agreement on the need to import technology appropriate to the factor endowments of this Country. Possibly this area of appropriate technology is where our R & D efforts should be concentrated. Also there is need for considerable stepping up of R & D by the private sector undertakings. The implications of the goal of self reliance in the Fifth Plan on foreign collaboration arrangements involved a clearer definition of the amount of equity capital participation, the nature of management control and the royalty and other payment arrangements together with a more precise definition of the areas where foreign collaboration arrangements should be promoted. The paper contributed by the Director of MIDS to the Seminar appears as the second article in this issue.

Family Planning Foundation :

The Family Planning Foundation founded in 1971 as a voluntary funding agency to promote research in family planning with Mr. J.R.D. Tata as the President functions through a governing body which decides on policies and allocation of funds, and an Advisory Committee which recommends programme priorities and reviews the functioning of projects. It has a small and competent staff headed by a good social scientist. In the first two years of its functioning, it has approved projects in family planning as a part of total welfare services, pregnancy termination services, training of family planning specialists etc. to the tune of Rs. 50 lakhs. Its most important project is a study of demographic trends past and future, based on unpublished data with the Registrar-General of Census. It is also publishing a 3 volume study of the state of research on population and family planning in the Country.

Geography Conference :

The Seventh Annual Conference of the Geography teachers of India was held in Madras in mid January. The Conference emphasised the need for sound and modernised geography teaching at the school and college level. At present geography is clubbed with history and a student can pass the joint examination paper without answering a single question in geography. This should be corrected. More geography specialists should be appointed as teachers, full time and part time. Both teaching and research should be based on the State and the Country's needs-resource needs, agrarian needs, spatial planning needs etc. In this connection the recommendations for geography research both inter disciplinary and disciplinary made by the ICSSR Review Committee were emphasised together with an appeal to geographers to participate actively in the development of backward regions and urban planning and development programmes of the Fifth Plan.

Basic Education Conference :

The Second State Conference on Basic Education was held in Madras in January. The first conference was held in Sevagram in October 1972 (See Vol. II No. 12 pages 31-33). At the Madras Conference the means of introducing productive work in the educational system at various levels was the main issue discussed. The perspectives in this regard opened up by out of school education, where productive work is actually being done by the drop-outs and those who are out of the school system, so that it is education which has to be woven around such work, was emphasised. The training of teachers for this type of education, the development of appropriate curriculum and the preparation of the parents for accepting this real and basic education were discussed in detail.

Science Instruments :

The All India Scientific Instruments Manufacturers Association in co-operation with State Science Association and the Association of Technologists organised a very good science exhibition at the A.C. College of Technology, Madras at the end of January. It was an occasion when science students were able to exhibit various experiments and science gadgets that they had developed. It was a good introduction to science for school students and for the adult public. On that occasion there was a symposium organised on the production and use of science Instruments in the Country. Taking all science instruments in use, including those in the defence services, the Country is using Rs. 100 crores of instruments per annum but is producing only Rs. 20 crores of instruments. There is thus a long way to go in increasing for the Country both the technology and volume of production of sophisticated instruments. Another area where further work is needed is calibration of instruments and a repair and maintenance service for instruments in all our university, engineering and production centres.

Kisan World :

The management of Sakthi Sugars has taken another innovative action in launching an agricultural monthly in English, the Kisan World. This is the first attempt to bring to the farming world and non-farming world news about agriculture. The first issue shows the possibilites that exist for making agriculture as newsworthy as any other part of our life. The monthly is run by a group of journalists who also have first hand experience of farming, so that this combination should produce in this Country what it needs very much—a new kind of journalism—agricultural journalism. The monthly will soon have to be published in Tamil and other national languages.

Inter-disciplinary Research Methodology Seminar, Hyderabad :

As of the end of January, 29 participants out of the 37 invited (See last issue Vol. IV pages 152 and 153) had accepted the invitation to participate in the Seminar to be held at Hyderabad on April 1-13. Of the 10 authors of papers, 5 had accepted and of the 4 resources persons invited, 2 had accepted. The Seminar participants as of January 31 are:

1. Dr. V. Shanmugasundaram,
   Prof. & Head of the Department of Economics,
   University of Madras,
   Chepauk, Madras-600005.

2. Dr. C. T. Kurien,
   Prof. & Head of the Department of Economics,
   Madras Christian College,
   Tambaram, Madras-600059.

3. Dr. M. Abel,
Prof. & Head of the Department of Political Science,
Madras Christian College,
Tambaram, Madras-600059.

4. Miss M. Gajalakshmi,
Prof. in charge,
Department of Economics,
Madurai University,
Madurai-2.

5. Dr. N. Subramanian,
Prof. of Ancient History,
Madurai University,
Madurai-2.

6. Dr. K. H. Cheluva Raju,
Head of the Department of Political Science,
Central College,
Bangalore University,
Bangalore-1.

7. Dr. T. E. Shanmugam,
Prof. of Psychology,
University of Madras,
Chepauk, Madras-600005.

8. Dr. R. P. Misra,
Director,
University of Mysore,
Office of the Institute of Development Studies,
Mysore-6.

9. Prof. G. Parthasarathy,
Head of the Department of Co-operation and Applied Economics,
Andhra University, Waltair,
Andhra Pradesh,

10. Dr. D. L. Narayana,
Prof. and Head of the Department of Economics,
Sri Venkateswara University,
Tirupathi, Andhra Pradesh.

11. Dr. N. Balakrishna Reddy,
Head of the Department of Geography,
Sri Venkateswara University,
Tirupathi-517502. (A.P.).

12. Prof. K. S. Sonachalam,
Honorary Professor,
Department of Economics,
S V.C. College,
Tirupati-517502. (A P.).

13. Dr. A. Ramaswami,
Prof. and Head of the Department of Economics,
Annamalai University,
Annamalainagar, Chidambaram,
South Arcot District.

14. Mr. R. Subramanian,
Gandhigram Rural Institute,
Department of Research,
Gandhigram P.O.,
Madurai District.

15. Prof. P. K. B. Nayar,
Prof. and Head of the Department of Sociology,
Kerala University,
Kariavattam P.O., Trivandrum.

16. Dr. Mohammad Mohsin,
Prof. and Head of the Department of Commerce,
University of Calicut,
P.O. 673635, Calicut, Kerala.

17. Dr. T. K. Meti,
Prof. and Head of the Department of Economics,
Karnatak University,
Dharwar-3, Mysore.

18. Dr. Gopala Sarana,
Prof. of Anthropology,
Karnatak University,
Dharwar-3, Mysore.

19. Dr. C. Parvathamma,
Prof. and Head of the Department of Post-Graduate Studies and Research in Sociology,
University of Mysore,
Manasa Gangotri,
Mysore-6.

20. Dr. K. S. Suryanarayana,
Prof. and Head of the Department of Agricultural Economics & Statistics,
Andhra Pradesh Agricultural University, College of Agriculture,
Rajendranagar, Hyderabad-500030.

21. Dr. N. R. Deshpande,
Prof. and Head of the Department of Political Science,
Nagpur University, University Campus,
Amravati Road, Nagpur-10.

22. Dr. S. A. Deshpande,
Reader in Economics,
Nagpur University, University Campus,
Nagpur-10.

23. Dr. Malcolm S. Adiseshiah,
Director,
Madras Institute of Development Studies,
74, Second Main Road,
Gandhinagar, Adyar,
Madras-600020.

24. Dr. E.G. Parameshwaran,
Acting Director,
ICSSR Regional Centre,
Osmania University Library,
Hyderabad-500007.

25. Dr. M, Palaniswami,
Statistician,
Gandhigram Rural Institute,
Department of Research,
Gandhigram P.O.,
Madurai.

26. Mr. N. Ranganathan,
Prof. of Marketing Management,
University of Cochin,
Cochin-682022.

27. Dr. Y. Nagendra,
Indian Institute of Technology,
Guindy,
Madras-600036.

28. Dr. M. Madaiah,
Reader in Economics,
University of Mysore,
Manasa Gangotri, Mysore-6.

29. Mr. T. R. Soundararaja Rao,
Prof. of Research Methodology and Statistics,
Sri Ramakrishna Mission Vidyalaya Teachers College,
Sri Ramakrishna Vidyalaya P.O.,
Coimbatore-641020.

The Paper writers who have accepted are :

Economics

Dr. C. T. Kurien

Sociology

Prof. N. Satish Saberwal,

Psychology

Dr. T. E. Shanmugam,

Geography

Dr. R. P. Misra,

Education

Dr. N. V. Tirtha.

Applied Science

Dr. A. Rehaman.

The Resource persons who have accepted are :

Dr. Sugata Dasgupta,
Prof. Durganand Sinha and
Dr. V. M. Dandekar.

Fourth Census of Social Science Research in Tamil Nadu :

The Madras Institute of Development Studies is conducting its fourth census of Social Science Research in Tamil Nadu. *All Social scientists engaged in research are requested to send in by April 1, 1974 to the Director of the Institute, information on the research they are undertaking classified by project as follows:*

1. Discipline:
2. Title of Research Project:
3. Commencement date:
4. Termination date:
5. Brief summary of the Research Project
   (a) Objectives:
   (b) Methodology:
6. Is the project leading to a degree
   If so, what degree:
7. Department sponsoring the project:
8. Institution to which Department belongs:

February Development Seminar :

The paper for the February Development Seminar, Fifth Five Year Plan of Tamil Nadu by Dr. C. T. Kurien, Professor of Economics, Madras Christian College, Tambaram together with a summary of the discussion at the Seminar chaired by Dr. V. Shanmugasundaram, Professor of Economics, Madras University appears as the first article.

Second Article :

A Paper on Foreign Collaboration; its Organisation and Management, appears as the second article in this issue.

Book Review :

A review by Dr. D. T. Lakdawalla, *Professor and Head of* the Department of Economics, Bombay University, of the Institute's Publication Four, " A Guide to Research in Economics, appears as the last section of this issue of the Bulletin.

FIFTH FIVE YEAR PLAN OF TAMIL NADU

By

DR. C. T. KURIEN,

Professor & Head of the Department of Economics,

Madras Christian College, Madras-600059.

I

1. The State's Fifth Five Year Plan has been under preparation for over two years, but has not yet emerged in final form. The Editorial in the January 1974 issue of the *Bulletin* of the Madras Development Seminar Series says that "The Fifth Plan for the State is now established at Rs. 1,214.26 crores in what is known as the State sector, which has involved a scaling down of the first draft of Rs. 1,532 crores presented to the Union Planning Commission. The major reductions have been in the minimum needs programme, social services and irrigation." The Editorial also gives a break-down of the sectoral allocation of the Rs. 1,214.26 crores. Dr. Shanmugasundaram's paper on "Capital Formation and Resource Mobilisation" presented to the Seminar in December 1973 and appearing in the same issue of the *Bulletin* contains some information about the Fifth Plan and its approach to resource mobilisation. It also gives the income-investment model on which the Plan is based (page 70 in the *Bulletin*). Before I raise some questions about the Plan, it may be helpful to bring together whatever information is readily available about it. I rely mainly on two sources: *Draft Fifth Five Year Plan, Tamil Nadu* (Memorandum presented by the Government of Tamil Nadu to the Union Planning Commission, September 1973) (to be referred to as Memorandum) and *A Frame-work for the Perspective Plan of Tamil Nadu 1974-75 to 1983-84.* (Technical Notes and Methodology) dated October 1973, (to be referred to as *Technical Notes*). These sources materials are supplemented by some of the other preparatory materials of the State Planning Commission to which I had access as a member of the Task Force on Growth Rate and Resources Mobilisation.

II The Fifth Plan in Outline

2. This distinguishing feature of the State's Fifth Plan is that it is part of the long term perspective of development of the State contained in the Perspective Plan 1974-75 to 1983-84. As such its objectives are the same as those of the Perspective Plan which were detailed in the *Draft Perspective Plan Frame for Tamil Nadu 1972-1984.*

These are :

(i) Doubling the per capita real income by 1984 ;

(ii) Efforts to provide Full Employment by stretching administrative, institutional and financial efforts to the maximum ;

(iii) Attacking in a selective manner the worst forms of poverty through implementing the Minimum Needs Programme ;

(iv) Bringing about social justice by reducing economic and social inequality ;

(v) Accelerating the process of social change necessary for economic growth by transforming the social structure and social attitudes ;

(vi) Promoting cultural activities and community participation in them as a means of humanising Economic Development Programmes ; and

(vii) Decentralising Planning, development and resource mobilisation.

3. While the Plan thus aims at a very broad socio-economic transformation of the State, its strategy is confined to the first three of the objectives: it is essentially an investment plan. It is assumed that a stepping up of investment is a necessary and sufficient condition to increase (per capita) income, that the proper allocation of that investment will ensure full employment and that the quantum of investment and its appropriate allocation will eradicate the worst forms of poverty, social justice, social change, humanisation of development and decentralisation—the other four objectives of the Plan, it is assumed, will have to be achieved through other policy measures. It is not suggested that the two sets of objectives, 'economic' and 'non-economic' can be treated in isolation. The *Technical Notes* detail the relationship between the two sets of objectives as follows : " Emphasis is laid on social and institutional changes in consideration of the fact that in economic development the formation of human capital is as much important as the building up of material capital. Direct measures to transform social structure and promote cultural activity would bring about the much needed attitudinal change conducive to increased effort and material advancement. Similarly economic and social measures to reduce inequalties in income and wealth would create in the masses of people an incentive to work hard and earn more. But the financial resources for meeting the outlays on those measures would have to be generated mostly from within and that is possible only if output is increased. In fact, if per capita income rises appreciably and near full employment is reached, and simultaneously there is increased production of basic consumption goods and price stability is maintained, the trend in material advancement initiated in this manner would be reinforced by the social ameliorative measures and result in continued economic progress. There is thus a close correlation between the different objectives."

4. Although the inter-relationship between the two sets of objectives is thus recognised, the technical section of the Plan is concerned with the former, in particular the first aim of increasing the per capita income. Reckoning the per capita income of 1970-71 to be Rs. 654, the Perspective Plan aims to push it up to Rs. 1,308 (in 1970-71 prices) by 1983-84. Taking the State income of 1970-71 (per capita income multiplied by size of population) and the projected State income of 1983-84 (required per capita income multiplied by projected population figure) the additional total income to be generated in the economy over the Perspective Plan period is calculated. The State income of 1983-84 is computed to be Rs. 7,000 crores (in round figures) and of 1973-74 to be Rs. 3,000 crores (again in round figures). Hence the additional income to be generated during the decade covering the Fifth and Sixth Plans is Rs. 4,000 crores. The investment necessary to achieve this additional income is calculated by making use of the incre-

mental capital-output ratio. The estimate of the investment required is Rs. 9,760 crores. The additional incomes and investments are apportioned between the Fifth and Sixth Plans as follows:

	Incremental Income	Investment
Fifth Plan	Rs. 1,121	Rs. 3,250
Sixth Plan	Rs. 2,894	Rs. 6,510

The total quantum of investment for the Fifth Plan is thus arrived at.

5. Such investment, it will be noted, will represent a rather high proportion of the State income every year. It is estimated that during the final year of the Fourth Plan, State income will be Rs. 3,100 crores and investment Rs. 403 crores, so that investment represents 13 per cent State income. To achieve a total investment of Rs. 3,250 crores over the plan period investment will have to move up to 21 per cent of State income. This will be possible only if close to 50 per cent of additional income generated every year is diverted into investment. Table I below gives some details regarding income, investment and other aspects of the Fifth Plan.

TABLE I

Fifth Five Year Plan — Annual Breakdown

			Fifth Plan				
		1973-74 (final year of IV Plan)	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
1.	Income at beginning of year (Rs. Crores)		3100	3240	3400	3588	380
2.	Income at end of year (Rs. Crores)	3100	3240	3400	3588	3807	4065
3.	Investment (Rs. Crores)	403	463	543	636	746	862
4.	Investment as p.c. of income	13.00	14.30	15.97	17.75	19.62	21.20
5.	*Marginal rate of investment in p.c.		45	50	50	50	45
6.	Population (crores)	4.40	4.50	4.60	4.69	4.79	4.89
7.	Per capita income (Rs.)	701	720	739	765	795	831
8.	Rate of growth of per capita income p.c.		2.2	2.66	3.47	3.89	4.59
9	Rate of growth of aggregate income p.c.		4.55	4.94	5.50	6.10	6.78

$$\text{*Marginal rate of investment} = \frac{\text{annual increase in investment}}{\text{annual increase in income}}$$

Source: From Table 2 in *Technical Notes*.

6. Investment in the State comes from three main sources—State Government, Central Government and Private Sector. During the decade of the sixties the share of these three agencies in investment in the State averaged approximately 40 per cent, 22 per cent and 38 per cent respectively. In view of the Nature of projects included in the Fifth Plan, the Centre's share has been put up to 24 per cent and the Private sector is assigned 34 per cent of the total investment resulting in the State's share turning out to be 42 per cent. On this basis the total investment of Rs. 3,250

crores is to be shared as follows: Central Government (direct investment) Rs. 780 crores; Private Sector Rs. 1,105 crores and the State sector Rs. 1,365 crores.

7. From the point of view of the sectors of the State economy the total investment is to be allocated as follows:

1.	Agricultural Production	Rs. 446 crores (13.8%)
2.	Animal Husbandry, Forestry and Fisheries	Rs. 145 crores (4.5%)
3.	Mining and Manufacturing	Rs. 682 crores (21.0%)
4.	Electricity	Rs. 612 crores (18.8%)
5.	Small Enterprises	Rs. 115 crores (3.5%)
6.	Transport and Communications	Rs. 280 crores (8.6%)
7.	Other services	Rs. 970 crores (29.9%)
	Total ...	Rs. 3,250 crores (100.0%)

A breakdown indicating the share of each of the major investing agencies in their sectors is given in Table II.

TABLE II

Fifth Five Year Plan — Allocation of Investment

Sectors	*(Rs. Crores) Agencies*		
	State Government	*Central Government (Direct)*	*Private Sector*
1. Agricultural Production	200 (44.8)	10 (2.3)	236 (52.9)
2. Animal husbandry, forestry & fisheries	50 (34.5)	5 (3.4)	90 (62.1)
3. Mining & Manufacturing	62 (9.1)	375 (55.0)	245 (35.9)
4. Electricity	412 (67.3)	200 (32.7)	—
5. Small Enterprises	43 (37.4)	—	72 (62.6)
6. Transport & Communications	98 (35.0)	135 (48.2)	47 (16.8)
7. Other Services	500 (51.5)	55 (5.7)	415 (42.8)
Total	1,365 (42.0)	780 (24.0)	1,105 (34.0)

(Figures in brackets represent percentage of total in each row)

(Source : Table 8 in *Technical notes*

8. The overall growth rates assumed during the Plan period have been indicated in Table I. A breakdown of these growth rates among the sectors and a comparison of the growth rates in previous periods will set the Fifth Plan in proper perspective. This is attempted in Table III.

TABLE III

Sectoral Growth Rates in Tamil Nadu

(Average annual growth rates in income—compound)

Sectors :	1960-61 to 1970-71	70-71 to 73-74	V Plan
1. Agriculture	1.8	3.0	4.2
2. Animal Husbandry etc.	1.4	4.1	7.5
3. Mining and Manufacturing	6.5	6.3	7.9
4. Electricity	11.1	8.6	10.4
5. Small Enterprises	6.9	7.0	7.6
6. Transport and Communication	2.8	4.7	7.3
7. Other services	4.0	5.2	5.8

Source: Various Planning Commission Papers.

It will be noticed from the Table that the proposed Fifth Plan growth rates in agriculture, animal husbandry and transport and communications are considerably higher than what was achieved during the past decade and the first few years of the seventies. Another way of stating this is that the Fifth Plan's strategy is based on expectation of a major break through in the agricultural sector (including animal husbandry) and a sharp increase in transportation and communication.

9. A quick survey of some of the specific targets set and major projects included in the Fifth Plan is necessary to complete the picture and to bring in a sense of realism to the aims and objectives of the Plan. According to the Memorandum the Plan assigns the highest importance to the attainment of the target of 91.50 lakh tonnes of food grains, including 67 00 lakh tonnes of rice, 20 lakh tonnes of millets and 3.50 lakh tonnes of pulses. There has been a steady increase in the production of food grains in the State. Between 1951-52 and 1960-61 the food grains production rose from 36.07 to 53.96 lakh tonnes. It moved upto 70.34 lakh tonnes in 1970-71 and the 1973-74 figure is expected to be 74 lakh tonnes, somewhat lower than the target of 79 lakh tonnes. The boost in production expected in the Fifth Plan is expected to be achieved by increased use of fertilizers, improved seeds and irrigation facilities. In major irriga-

tion provision of Rs. 63.34 crores has been made to complete the work associated with the Vaigai and Tambaraparani systems. Under minor irrigation, it is proposed to sink 10,000 filter points, 12,500 private tube wells, 4,000 bores in existing open wells and to deepen 10,000 open wells. For medium irrigation schemes a sum of Rs. 25 crores has been provided. In addition, a provision of Rs. 30 crores has been made for taking up works under special minor irrigation programmes for construction of new tanks and improving existing tanks. A provision of Rs. 15 crores has been made for the standardisation and deepening of the 27,000 tanks under the control of Panchayat Unions, and Rs. 8 crores for making an intensified ground water survey.

10. In the matter of power generation the emphasis will be on the creation of additional thermal generation capacity and on reduction of line loss. Electricity and other forms of energy are linked up with the State's rapid industrialisation programme. Among the new industrial projects listed are a Sponge Iron Plant attached to the continuous Casting Plant at Arkonam, a machine tools plant, expansion of the cement and continuous Casting Plants, and expansion of the SPIC fertilizer plant and Expeditious completion of Salem Steel Plant, setting up of three sugar factories in the co-operative sector, modernisation of textile mills taken over by the State and supply of machinery and worksheds on hire purchase in the small scale sector are the other industrial features in the Plan. The Plan provides Rs. 101 crores towards road development of which about Rs. 55 crores were initially set aside towards the fulfilling of one of the objectives of minimum needs programme, viz., providing all-weather link roads for all habitations of 1,500 and above. The overall roads programme is expected to result in 2,700 kms. of new roads and improving 6,300 kms. of existing roads. The Plan also aims at the creation of a new minor port at Ennore at a cost of Rs. 1.31 crores. Nagapattinam and Cuddalore ports are to be provided additional facilities.

11. In the sphere of education the State expects to reach 90 per cent of enrolment in the age group 6 to 11 and 53 per cent in the 11 to 14 by the end of the Fourth Plan. These percentages are expected to go upto 96 and 64 by the end of the Fifth Plan. In addition, a massive programme of providing science equipment and laboratory facilities for all high schools at a cost of Rs. 10.4 crores is proposed in the Fifth Plan. It is also proposed to have full time craft instructors in all schools, enabling the students to learn useful crafts. The Engineering College at Guindy is to be developed as an advanced centre for post-graduate learning. With this institution as nucleus, it is proposed to establish a Technological University bringing under its control all other engineering colleges also. A total provision of Rs. 12.45 crores has been made for technical education. The Plan aims to set up a widespread network of specialities by creating in every district headquarters hospital specialities such as Blood Banks, Pediatrics, E. N. T. etc. The Plan provides Rs. 1.58 crores for the development of indigenous system of medicine and proposes to develop the Arignar Anna Cancer Hospital at Kancheepuram into a regional centre for cancer research and treatment. During the Fifth Plan period programmes initiated earlier to eradicate malaria and small-pox and other diseases will be continued. In addition, it is proposed to give special emphasis to the identification and cure of leprosy. The leading role that Tamil Nadu has been playing in the family planning programme will be kept up during the Fifth Plan. A total provision of Rs. 125 crores for

water-supply and sanitation has been made. Also a provision of Rs. 62.70 crores has been made towards creation of housing facilities throughout the State of which Rs. 25 crores will be towards the clearance of slums in Madras and in major urban centres. In addition, a provision of Rs. 11 crores has been made for giving house sites to the landless labourers and for creating an organisation for implementing rural housing programmes. Similarly an amount of Rs. 51 crores is set apart for the welfare of scheduled castes and scheduled tribes. Provision has also been made for the development and improvement of Madras city and for the construction of satellite towns around it.

12. Reaching full employment by 1983-84 is one of the aims of the Perspective Plan. The fifth Plan is expected to make a significant contribution in this area. It is calculated that the backlog of unemployment at the commencement of the Fifth Plan will be 53 lakhs. Addition to the labour force in the years 1974-75 to 1978-79 is estimated to be 19.60 lakhs. It is expected that the investment during the Fifth Plan period will create opportunity for absorbing about 35 lakhs of workers so that the Plan will end with a backlog of unemployment less than at the beginning, about 37 lakhs. (Calculations are that the size of unemployment will be brought down to just over one lakh by 1983-84). The Plan also expects to bring down significantly the percentages of population below the poverty line. It is estimated that at the commencement of the Plan 43.7 per cent of the population will be below the poverty line (consumer expenditure of below Rs. 40 per month). It is expected that the stepping up of investment and the increase in income will bring down the percentage of those below the poverty line to 32. (Here again, the calculations are that at the end of the Sixth Plan only 2.8 per cent of the population of the State will be in a State of dire poverty.

13. Such, briefly is a sketch of the Fifth Five Year Plan of Tamil Nadu in terms of its objectives, strategy, quantum and allocation of investment and the main targets.

III. Comments.

14. As Dr. Shanmugasundaram pointed out in his December Seminar paper, State level planning is characterised by many 'imponderables'. To begin with, the kind of centralised investment planning that we have been attempting both at the Centre and now at the State level presupposes that the planning authority has fairly reasonable control over the key decision regarding the allocation of the total resources of the economy between consumption and investment. In Economies of the Soviet type where all the major decisions regarding the utilisation of resources are made by one centralised authority there is a fair approximation to such control. On the other hand the 'mixed economy' that we have been practicising recognises a plurality of decision making agencies and control systems over the total resources of the economy. Hence we cannot achieve centralised investment planning: we can only attempt a simulated version of it because the decision of the resources between consumption and investment is exogenous to our plan implementation system although it forms the central part of our planning models Further, where the private sector (both organised and unorganised) also has the right and power to determine where investmeat should take place, the planning body does not have full powers to determine the pattern of investment either. Thus, planning bodies in our systerm (whether at the Centre or

at the State level) cannot fully determine either the quantum or the allocation of investment during the plan period, although our planning models pretend that this is precisely what our planning commissions are trying to determine. This is the major reason for 'imponderables' in our approach to planning. It will be wrong to conclude from this that formal models cannot play any part in our plans. But the situation imposes two major limitations on our planning process. In the first instance, the rate of growth of the economy in our case is indeterminate. Hence all appeals to magic of numbers growth rates—5.5 per cent per annum, no more and no less!—must be quietly laid aside. Secondly, since some key functional relationships (such as the savings decision) are exogenous to our planning systems, our plans cannot also have a clear picture of the investment patterns in the economy and their consequences on the economy. The manifested inability of our planners to control the price level is in part an indication of this situation. It is important to have these limitations underlined as we enter a period of 'scientific' planning at the State level. The planners themselves are aware of them I am sure, but it is equally important that the public should also be informed about them.

15. Apart from this major 'imponderable' inherent in our economic system planning at the State level is subject to two more. The first relates to the uncertainties regarding the contribution of the Centre—an aspect featured by Dr. Shanmugasundaram in December and an issue frequently aired in our State. I do not know enough about the techniques of dialogue between the Centre and State in this area to comment meaningfully about it. I would only point out that we should not exaggerate the limitations it imposes on State level planning. After all, planning at the Union level also has a similar area of uncertainty: the contributions to be expected from our foreign donors. Somebody has recently remarked that while we can accept Self-Reliance as a national objective, the extent of our self-reliance is in effect determined for us by our donors! State level planners have the advantage that they can talk openly (although with considerable irritation) about the uncertainties resulting from the dependence on the Centre; the Central planners are obliged to pretend that they are in full command of the situation.

16. The special problem of imponderability for State level planning pertains to the data basis of the State economy. There are many areas where the data source is inadequate and unreliable at all levels of planning. But since the State economy is an 'open economy' without any easy means to record its transactions with 'the rest of the world' within the national economy, concepts of State 'domestic' product and State level income become extremely difficult to define and more difficult to measure. This imposes severe limitations on all approaches to intersectoral linkages (capital-output tables, flow of funds analysis etc) which are the commonest of techniques and at national level planning. Consequently planning at the State level turns out to be much more circumscribed than that at the national level.

17. With these preliminary remarks I would like to make some comments specifically about the State's Fifth Plan. The State's Fifth Plan (as well as the Perspective Plan) is based on a simple income-investment model of the kind used in the country's First Five Year Plan. Working with a model of this kind the Plan may be thought of as consisting of three aspects, its objective, the economic logic that it involves and presupposes and the empirical data that it works with. In para 3, I have examined the stated objec-

tives of the Perspective Plan, of which the Fifth Plan forms a part, and have divided them into economic and non-economic ones. Of the three economic objectives (increase in income, increase in employment, and reduction of poverty) the model that the Plan is based upon (derived from the Harrod-Domar theoretical model of growth) addresses itself only to the first. The model is just a statement of the relationship between income and investment. Unlike other models used in the context of planning in India it cannot deal with the question of the allocation of investment among the sectors of the economy (the main question that the Mahalanobis model which formed the basis of the national Second Five Year Plan addressed itself to) or the problem of optimisation in the context of multi-sectoral inter-temporal situation (examined by Chakravarty, Lafeber and others in connection with the Third Plan) or the question of consistency in target setting in a multi sectoral approach (discussed by the Manna-Rudra model at the time of the formulation of the Fourth Plan) or of the impact of the distribution of income and the forces of demand on the patterns of production (as is claimed by the model underlying the national Fifth Five Year Plan). And yet the Tamil Nadu perspective Plan and Fifth Plan have much to say on all of these issues. How has this been achieved? The answer is that these claims of the Plans are based on assumed economic logic (that an increase in per capita income will lead to increase in employment and to reduction of poverty) and on observed empirical relationships. There is nothing wrong in constructing a plan on the basis of past experiences and informed conjectures, but it is important to keep clear the distinction between such calculations and theoretical derivations imposed upon them.

18. An examination of what the Plan claims to be its "internal consistency" will illustrate this aspect. The desired increase in income is first estimated and then the investment required to achieve it is calculated. There the model ends. This is followed by two exercices. The growth rate for each of the ten years is specified and the allocation of investment among the sectors of the economy is determined. Testing for internal consistency consists of demonstrating that annual rates of growth thus specified will result in the desired rate of growth over the ten years and that the weighted sum of the sectoral capital-output ratios is equal to the aggregate capital-output ratio and that the rates of growth of the sectors thus determined again aggregates to the rate of growth determined for the economy. Is there anything more than a mere game of numbers in these exercices? To arrive at a doubling of per capita income by 1983-84 it is possible to have different 'consistent' patterns of growth over time. Given below are two inter-temporal growth patterns produced by the State Planning Commission.

Year	Growth Rates	
	A	B
1974-75	4.55	5.8
1975-76	4.94	6.5
1976-77	5.50	7.3
1977-78	6.10	8.2
1978-79	6.78	9.2
1979-80	7.33	9.3
1980-81	10.00	9.4
1981-82	10.50	9.5
1982-83	10.79	9.52
1983-84	11.03	9.6

In fact now that we have the assistance of computers this number game can be played several times over producing many more 'internally consistent' patterns. Again, this is nothing unusual in the context of planning exercises. After all, consistency is a necessary condition, but not a

sufficient condition for a planning model. But granted that different internally consistent patterns are possible how is the choice made from among them? There are three possibilities (i) the planning model itself may be an optimising model; (ii) planners have examined the actual working of the economy and have decided on a particular pattern, i.e., the choice has been made on empirical grounds, and (iii) the choicehas been arbitrary The first possibility does not exist in our case because, as has already been pointed out, the model used in the Perspective Plan does not address itself to this question.

19. Hence one must turn to possibility (ii). Here, rather than confining myself to the question of the empirical validation of the internal consistency of the model, I shall examine the broader question of the empirical justification of the Plan's calculations. It has been pointed out already (see para 8 above) that the Perspective Plan and the Fifth Five Year Plan are based on the "Greener Revolution" that the State awaits. Fair enough. We have the right to expect a revolution and to expect that revolution will go from green to greener. But can we expect that revolution without adequate effort? The capital-output ratio assumed for the agricultural sector for the Fifth Plan is 1.87 : 1 and for the Sixth Plan 1.20 : 1. Considering the fact that what the Plan documents describe as the agricultural sector includes not only agriculture proper, but also minor irrigation, soil conservation, ayacut development and 50 per cent of irrigation and flood control, these capital co-efficients appear to be unbelievably low. The Plan documents that I had access to do not at all discuss how the capital-output ratios for the economy and for the individual sectors have been calculated. In one or two places there are indications that the overall capital-output ratio of 2.4 : 1 for the perspective Plan period is consistent with the figures arrived at by the Union Planning Commission and are justified by past experiences. It will be helpful if the State Planning Commission will explain how these figures were arrived at. It may be recalled that the problem was posed during the December Seminar also.

20. The important fact to be noticed is that even with such a low capital-output ratio investment in the State has to go up from 13% of State income at the end of the Fourth Plan period to 21.2% at the end of the Fifth Plan and that such a stepping up of investment calls for a marginal rate of investment of 50 per cent. (see para 5 and Table I above). To convert into investment 50 per cent of additional incomes generated is no mean task. It will be good to know whether such a feat has been achieved anywhere in the country during the past two decades of planning. Granted that the share of "external" resources (from the Centre) is only 24 per cent, the bulk of the additional investment will have to be matched by domestic savings. Can an economy which at the moment does not generate a saving of more than 10% or so generate a marginal rate of saving of 50%? If the Union Plan and the planning efforts of the neighbouring States do not call for such major investment efforts will Tamil Nadu alone achieve it? Has there been a study of savings behaviour in the State to suggest that this might be possible?

21. In this connection it is worth noting that one of the empirical exercises conducted by the State Planning Commission itself does not lend much support to the possibility. A detailed econometric model compared the required investment with what is likely to become available based on past trends. (Reported in *Technical Notes*). The conclusion from this model is as follows :

"There is an apparent inconsistency between the trends in aggregate consumption as a proportion of aggregate income and investment as a proportion of income. In fact in all the years subsequent to 1975-76 consumption and investment add up to more than total income. Here it should be remembered that investment is predetermined, i.e., the amounts indicated represent what is required to ensure a certain rate of growth. But consumption, both private and public, is derived from past trends. Thus it only means that if the past trend in consumption continues, and if the investment amount is given, either the targets in respect of the latter cannot be attained or if it is attained with increased direct control investment, there is bound to be internal instability. Alternatively, the required investment target can be attained only by reducing consumption".

This need not be the last word on the subject. But it indicates that the expectations about growth have not yet been spelled out in operational terms. Till then we cannot be sure that the Plan is feasible even if we have convinced ourselves that it is consistent.

22. I shall now turn to the economic logic implied in the Plan which links up increase in income with increase in employment and reduction in poverty. It must be repeated that these aspects are not part of the model that has been used in the formulation of the Plan. The claim that an increase in investment and income will also increase employment is based on the assumption that increase in investment does not result in capital intensification (i.e., increase in capital-labour ratio). Where there is a steady increase in labour, it may also have to imply that as growth takes place production is turning out to be abour intensive. In the organised sector of the economy the logic and the evidence both point to increase in the capital labour ratio as investment increases over time. In the unorganised sector it is possible that some labour intensification is going on all the time simply in response to the increase in population. It is this process that makes the term "full employment" almost meaningless in our context. Is employment just a question of counting heads, or should it also have reference to earning capacity? Even granting that an increase in investment will reduce unemployment in the numerical sense (but if this is the logic we are hard put to explain why there has been an increase in the backlog of unemployment) there is nothing to guarantee that it will lead to an increase in earning capacity for the vast majority of those who are "employed". In passing, it must be noted also that the increase in employment expected in the Plan is more directly related to the so-called "minimum needs programme" which is not part of the central logic of the Plan and which, therefore, will depend on how much resources are specifically made available for it. And as has happened recently when the quantum of investment is reduced the axe falls first on "minimum needs programme, social service" etc.

23. The employment question is also closely related to the problem of poverty eradication. It was not long ago that the planners themselves calculated that 60 per cent of the people of Tamil Nadu live below the poverty line and were exercised over the paradox that while Tamil Nadu is the third most industrialised State of the Union it also stands third highest in terms of the percentage of people below the poverty line. And now we have the Perspective Plan which neatly demonstrates that over the next ten years those below the poverty line will be brought down to just 2.8 per cent! Apart from the game of numbers (which, like the one that demons-

trates how per capita income will be doubled in ten years, is scientifically worked out) how does this actually happen? And what is the evidence from the past? It is well known that according to the National Sample Survey around 34 per cent of the rural population of the State lived below the poverty line in 1950, but that this proportion went up to over 41 in 1960. In the next decade it went up further. If the 'growth' of the first twenty years resulted in a steady increase in those below the poverty line, how does accelerated 'growth' suddenly reverse this tendency and bring about a drastic reduction in poverty in just ten years?

24. Not that such miracles do not happen. A doubling of per capita income and eradication of poverty can both be achieved in Tamil Nadu within a period of ten years. But in the realm of economics miracles happen not by mere wish and polished calculations but through deliberate efforts to achieve them. In the last paper I presented to this Seminar (Framework of a Plan to Abolish Poverty in Tamil Nadu—January 1973) I outlined the areas to which such effort must be directed if we are to achieve a miracle. There is an honorable mention of these areas in the objectives of the Perspective and Fifth Plans as well. But we have no ready made tools to work in those areas, and perhaps no courage to leave the beaten track. So they remain imponderable to us. Could it be that the real imponderables in our planning processes are those aspects we have deliberately chosen *not* to ponder over?

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Summary of Discussion

In the discussion of the paper at the Seminar held in the Seminar room of the Institute on Thursday, the 28th of February, under the Chairmanship of Dr. V. Shanmugasundaram, Professor and Head of the Department of Economics, University of Madras, the author commenced his presentation with the statement that the Fifth Five Year Plan of Tamil Nadu has not yet been finally published. The paper was, therefore, based on the Draft Fifth Five Year Plan, Tamil Nadu (Memorandum presented to the Union Planning Commission) and a Framework for the Perspective Plan 1974-84 (Technical Notes and Methodology), supplemented by preparatory materials of the State Planning Commission.

There are seven major objectives laid down in the Draft Perspective Plan Frame, three of which can be described as economic and the others as non-economic. Of these, the primary objective is the doubling of the per capita income by the end of the Sixth Five Year Plan and the Plan strategy were to project the quantum of investment required accordingly taking account of the population increase. It is therefore, essentially an investment Plan. The second and third objectives are corollaries thereof. An analysis of the model raises a number of questions. There are several possible paths to achieve the objectives stated and the basis for choosing the particular growth path envisaged has not been stated. Another

feature is that the thrust of investment is in the Fifth Plan. The criteria for inter-sectoral allocations have also not been specified. The successful realisation of the Fifth Five Year and the Perspective Plan depends on phenomenal growth in the sectors, agriculture, animal husbandry and fisheries—the green, white and blue revolutions involving a higher capital output ratio than that proposed. The projected increase of income assumes a rise in the investment rate from 13% at the end of 1974 to 21.2 per cent in 1979 at the end of the Fifth Plan and amounts to 50% of income generated being channelled into investment. This asssumption does not seem consistent with past performance in this country or even internationally, with the possible exception of Russia. A further consideration is the exceedingly low ICOR particularly in the sectors where most of the growth is anticipated. The National Sample Survey estimates that those below the poverty line were 34 per cent of the population in 1950, 41 per cent in 1960 and 60 to 70 per cent in 1970. Similarly there has been a steadily increasing backlog of unemployment over the last two decades. It is hard to reconcile these facts with the projected reduction in the percentage of those below the poverty line to 2.8 per cent and the achievement of full gainful employment. A number of claims has been made without suffiicent empirical evidence in terms of past trends and the model appears to be yet another numbers game, however consistent and arithmetically satisfying.

During the discussion it was pointed out, that the Perspective Plan projections were in conformity with past patterns of increase in net domestic, product and relative rate of investment. Estimates of capital requirement and ICOR had been similarly determined using State as well as national figures for certain sectors. Employment estimates had been worked out on the basis of demographic studies making necessary allowances for sectoral capacities. A large volume of employment was expected to be generated in the unorganised sectors of agriculture and animal husbandry, helping to eradicate poverty. The Task Force on Human Resources has adopted the 'Project approach to employment generation' estimating that investment of Rs. 8,000/- is required (Rs. 12,000 at 1970-71 prices) to generate a job. Further the N.S.S. data showed an increase in consumption. So poverty has decreased, though inequalities remain. According to recent data available in Tamil Nadu though the target of reducing 2.8 per cent may not be realised there appears to be every possibility of a 10 per cent target being attained. Anything less than a doubling of per capita income with its implied volume of investment will not solve the problem.

The State Planning Commission had a mandate to draw up a comprehensive plan and there was room for adopting any of the many approaches. The investment model for doubling the per capita income was the one chosen, although there was room for a different approach on the issues of progressive increase in growth rates and the distribution-cum-growth mix. Throughout the four earlier plans there had been a neglect of rural economy. Further in identifying these problems of investment and growth, estimation and simple division were inadequate. It was clear that much of the thinking behind the Fifth Plan is in almost ritualistic concord with the earlier plans. The Technical note is essentially a necessary and logical exercise. It, however, quantifies only the first of the listed seven objectives and its corollaries. There are no similar exercises for other quantifiable aspects of a growing economy such as poverty, unemployment and other areas. The decisions regarding investment is exogenous in as much as the State has

neither the right nor the power to compel investment. In regard to the planning process and decisions, an opinion was expressed that the Centre-State relations could be an inhibiting factor but planning must go on despite it. We have no data for the Private Sector. However the empirical data base of the model is fairly satisfactory. With reference to the unusually low ICOR projected for agriculture, it was pointed out that the figures were supported by a survey carried out in Dharmapuri and a study made by the Madras Institute of Development Studies. A query was raised as to whether the plan should not have been based on eradication of poverty rather than on general growth of the economy as mass poverty was the outstanding problem. In this connection it was pointed out that any attempt at eradication of poverty would require a complete change of the social structure. In a mixed economy all that was possible was a selective attack on the worst forms of poverty.

The outlines of the Fifth Plan had emerged, but it had yet to be given final form and there was still time to make changes. The four earlier plans had not been implemented successfully and if the Fifh Plan was to fare better, instead of following a formal model, a start should be made using available tools and expertise. There must also be a clear identification of local needs and resources and an administrative frame must be created which would ensure efficient implementation and participative enthusiasm and understanding of the development process. The present trend seems to overemphasise the importance of growth rates. the selective attack on poverty must be an equal priority. Planning at the State level implies a sense of closeness and the urge to make the plan implement able despite various obstacles.

FOREIGN COLLABORATION: ITS ORGANISATION AND MANAGEMENT *

Foreign collaboration in India

An economist faces two limitations when speaking on foreign collaboration. *First*, foreign collaboration is grounded in, if not a function of, technological realities. The economist *qua* economist is lost in dealing with this field unless he teams up with the engineer in order to examine even the economics of foreign collaboration. Even when he does, he faces the second issue, that problems in foreign collaboration—whether they relate to social costs and benefits or the individual entrepreneur's management, technical and financial problems—are problems in political economy rather than problems in economics. The conceptual frame is under-development, technological monopolies and oligopolies and appropriateness of technologies.

Given these limitations, the choice is self-evident between a macro-analysis of the social costs and benefits of foreign collaboration and micro-analysis of the individual entrepreneur's choices and decisions in entering into a foreign collaboration agreement. In these notes, I will be dealing with some of the social and policy aspects of the organisation and management issues on foreign collaboration in India.

According to the 1969 Reserve Bank Survey, by 1964, 144 technical collaboration agreements had been signed by 92 companies. Such agreements have been on the increase. In the period before 1947, one-fourth of the companies had entered into collaboration agreements; between 1948-1955, one-third of the companies had agreements; between 1956-1969, four-fifths had such agreements, and they are running today at five per week. The major industries in which such agreements are made are chemicals, machinery, machine tools, electrical goods and transport equipment.

Its general prevalence

Foreign collaboration agreements characterise both public sector undertakings as well as private sector units. In fact, most public sector enterprises have been set up with the help of collaboration arrangements, and the recent overall agreements concluded with the Soviet Union, Czechoslovakia, Hungary, Poland and German Democratic Republic and the discussions with the U.S., France, UK and Federal German Republic will see further extension of such collaboration help to a wide variety of public sector units. Such collaboration arrangements cover not only industrial firms, but also our consultancy agencies. The Central Engineering and Design Bureau, which was formed by Hindustan Steel at the time of the Rourkela construction, has acquired detailed technical designs through its collaboration agreements with GIPROMAL, the Soviet Design and Engineering Organisation and united Engineering of the USA. So too, the National Industrial Development Corporation has a wide range of collaboration arrangements, including these with West German and Hungarian agencies, as does the Engineers India Ltd., with the latest

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* Extracts from a paper presented by Dr. Malcolm S. Adiseshiah at a Seminar on Foreign Collaboration held at the Suthern India Chamber of Commerce and Industry on 31st January 1974.

U.S. collaboration arrangements on heat exchanges. Foreign collaboration is not simply a one-way arrangement of foreign technology and equipment being imported by our public sector and private firms. Indian industries have also started entering into collaboration agreements with firms in other countries. According to the report of the Estimates Committee of the Lok Sabha, upto 1st October 1971, 126 industrial joint ventures had been approved, of which 61 were at various stages of implementation. Fourteen (14) had started production prior to 1969 and 14 more started that year, with a total equity participation of Rs. 14.5 crores.

Its Role

Collaboration agreements have the immediate advantage of making available to the enterprise the technology it needs. For the Country, they add to its scarce foreign exchange resources for capital goods import. It also aids the internal mobilisation of capital on the part of the host firm and country in the joint enterprise. Using the economists' tool of the production function, if every collaboration agreement in principle adds in some way to the Country's appropriate technology, then there would be continuous positive shifts in the Country's production function. If on top, technical progress is embodied in this acquiring of technology, then both an increase in the rate of technical progress and in the country's growth rate can take place. Further, the collaboration arrangements entered into by Indian firms with industrial units in other countries are a means of expanding our exports of machinery, equipment, components and raw materials to those countries. According to the Estimates Committee Report referred to earlier, sales of components and other materials to the 28 joint ventures which have gone into production amount to Rs. 3.7 crores. Remittances on account of technology, royalty and management fees added upto Rs. 57 lakhs.

Some pre-conditions for its optimum use

There are also range negative consequences in foreign collaboration arrangements, particularly for society,—similar to some aspects of the negative role of foreign capital. Hence, to optimise individual and social returns on foreign collaboration agreements, certain organisational and management pre-conditions are suggested.

First, collaboration agreements should be negotiated by firms having a minimum technological competence in the area being negotiated. Most firms do not have such competence, and so, it is imperative that they use one of our consulting agencies. This will enable the firm to choose between good and bad proposals, to discriminate between process owners, licensors and engineering contractors, to ensure flexibility in choosing between sources of know-how and above all, to programme for local participation and training of staff in project design, construction and operation.

Second, firms entering into collaboration agreements should be required to set up their own R&D units which can understand, adopt and adopt the technology they are importing through such agreements. In fact, following the Japanese example, the Government instead of setting up further R&D laboratories, should finance R&D expenditures in these industries. These R&D units should be engaged in simple reverse engineering, that is, in stripping the imported machine or component in order to learn how it works, to adapt it and to reproduce it in relation to the firm's needs. This means that the Government in addition to financing these units, should give priority to those collaboration agreements which

will develop Indian expertise and not simply provide a substitute for it.

Third, in the particular case of the tyre industry, there is need for two large public sector undertakings with appropriate foreign collaboration each with a capacity for producting 20 lakh tyres. There are three reasons for this suggestion. First, there will be a gap of at least 40 lakh tyres between production and the demand for tyres during the Fifth Plan, continuing the short supply situation of the Fourth Plan. The priority needs of the road transport systems —passenger buses and goods carrying trucks—must be met. The present capacity of 18 private undertakings is 40 lakh tyres plus 51 lakhs authorised as expansions on new plants. Even allowing for the further 25 per cent expansions that have been permitted, the total production will be around 70 lakh tyres against a demand for 115 lakh tyres. Second, the private companies or even joint sector units do not have the capital resources to set up plants to meet the 40 lakh tyre gap. Whereas the capital of the eight units now with a production capacity of 40 lakhs is only Rs. 75 lakhs, the project cost for producing one lakh tyres today is around Rs 4.5 crores. This cost can be reduced by establishing large production units. Third and most important, the entire industry is not only under foreign control or operated with foreign collaboration, there is no sign of the Country developing its own technology in this important field. The four foreign controlled units rely for their technology and R & D on their parent companies in the U.S., UK or Italy, and the remaining Indian companies with foreign collaboration do not have the resources to start R&D programmes with a view to developing an indigenous tyre technology and keeping it up to date. The two large public sector units suggested can, however, develop the needed R&D in the tyre industry and the foreign collaboration that they will enter into can make explicit provision for this.

Fourth, if collaboration arrangements involve transfer or purchase of patents, then their effect on the ownership structure of the firm in question and the fall out it it may have with regard to price fixing, discriminating rates, terms of trade, tie-in arrangements, etc., should be carefully investigated. In fact, studies have shown that the majority of effective patents—that is, those which are being commercially exploited—are foreign owned and that they lead to cross-licensing and monopoly control. Patents hinder the flow of technology and make difficult, if not impossible, the development of local capabilities, knowledge, adaptation and skill.

Fifth, there is need for a data bank and an information system, which will be accessible to any firm desiring to know whether the technology needed is available within the Country, whether it has already been imported and under what conditions together with information on its access and terms of availability. There is a strong suspicion that there is a considerable amount of repetitive import of technology through our collaboration agreements. To some extent, this wasteful nature of the agreements is promoted by the imperfections of the market, caused by both ignorance and some quite unnecessary secrecy and confidentiality arrangements. It is to be hoped that the data bank now being developed by the Government will help overcome this market imperfection.

Sixth, to further promote Indian firms investing in joint ventures in other countries, it is necessary for insurance arrangements for such ventures to be developed. The Government policy on Indian capital participation in such enterprises always being less than 49 per cent

and being exclusively in the form of Indian plant and equipment is sound. As noted earlier, such a policy promotes the export demand of capital goods, components and raw materials from India. One factor which accounts for the slow growth of Indian joint ventures abroad, despite the well developed expertise and technology in the Country suited to the third world conditions, is the risk associated with such investment abroad. The risks are political uncertainty, unstable exchange rates and risks of nationalisation. In additon there are the usual commercial risks following from the technology used, the market condition, taxes, and tariffs. These should be borne by the Indian enterprise investing abroad. It is non-commercial risks—those arising from nationalisation, war and non-convertibility—that should be covered by a Government run insurance scheme. Such a scheme could have built into it the appropriate rates of premium for different types of risk, the maximum amount and period of time for the coverage and its limitation to equity investment abroad in the form of Indian produced capital goods and equipment.

Seventh, from the social point of view collaboration agreements have a negative effect on the Country's balance of payments through the monopoly pricing of the imported technology. In the negotiations involved in a collaboration agreement, the terms on which proprietory technology is transferred will bear the hall-mark of the monopolistic or oligopolistic advantages of the owner. Because of his better bargaining position, the owner is able to control production from the transferred technology and get higher rates of return and so increases the foreign exchange outgo from the Country. One countervailing factor to this negative element would be for the investment climate and working conditions in the host country to be such that the technology supplying firm prefers to invest in this country rather than elsewhere. This monopsonistic advantage could do to some extent balance the monopolistic power of the foreign collaborator. I am afraid, however, that our working conditions including the all pervading economy of industrial unrest and shortages are reaching a point that not only does no foreign firm voluntarily prefer to work in this Country; even when we importune them to do so, they write into collaboration agreements provisions for importing equipment which we are producing in case of delivery delays and even bringing in their work force in case of strikes and 'work-to-rule' agitations.

Eighth, collaboration agreements also raise questions of the appropriateness of the technology being imported under the agreement. This question of appropriate technology has two dimensions. The first and rather obvious one is that the technologies which the foreign collaborator brings in is capital intensive, as it is appropriate to his industrially advanced country, where capital is plentiful and labour scarce. In India where our factor endowments are the reverse. and our major pressure is our mounting unemployment, the import of capital intensive technologies has relevance only to new capital or technology intensive industries. At this point, the second facet becomes relevant, namely, that the inappropriateness relates not only to the technology but in some cases to the product that is produced under the collaboration arrangements. The products which these agreements help this Country in producing are products which the high income consumers of the supplying country demand. As such consumers form the minority in our country, the appropriateness of producing such products is considered negative in the Fifth Plan and

to that extent, this type of collaboration agreement can be discontinued. One way in which the negative objective of reducing the import of inappropriate technologies through collaboration agreements can be ensured is to ensure that our factor prices reflect the real factor scarcities in the Country. This has implications for wage and income policy, for credit and interest rate policy, for exchange rate policy and the pricing system of capital goods.

Ninth, foreign collaboration agreements with this premium on import of foreign technologies and the on-going R&D in the supplying country which sustains and further innovates the imported technology mean that the organic links between R&D laboratories, engineering and machine building which exist in those countries will not develop in this Country. The familiar gap between our national laboratories and their industrial counterparts continues and widens. What is even more serious, this leads to the marginalisation of our science and technology. Our scientific and technology institutions are working at the margin of the science and technology of the advanced countries. That is, they are working, somewhat ineffectively, on the same processes and designs as the R&D units of the foreign collaboration; and as one always prefers supra-marginal to marginal products, our industrialists prefer to import the technology which is certain, established and speedily delivered to that which is being developed slowly, laboriously and uncertainly in our research institutes and laboratories. The remedy for this situation is not to cut off collaboration arrangements, but for our science and technology to concentrate its R&D work on the development of appropriate technologies of goods in mass consumptions and the intermediate and capital goods that their production need. In this way they will develop a monopoly of the kind of expertise and industrial know-how not available anywhere else. That would also end the alienation of our science from our economy.

Self-reliance and foreign collaboration

In conclusion self-reliance now clearly established as our second major objective in the Fifth plan has direct implication for policy concerning foreign collaboration. One consequence is that while facilitating the entry of loan capital into the Country, the conditions for the entry of equity capital must be made more consistent with our political, social and economic goals. In the case of approved equity participation the management role of the foreign collaboration should be clearly spelt out so that both the public and private undertakings can use them as parameters in their negotiations for foreign collaboration. The amount and ceiling of equity participation involving management participation needs to be worked out in some detail, possibly on the basis of the state of the Country's technology appropriate to each industrial sector and sub-sector. It will be necessary to go beyond the macro-regulations defining upto 40 or 49 per cent equity participation as not involving management control, by relating both to the industrial base, R&D potential, technological resources and the specific nature of different industries in the Country. Such disaggregated techno economic analysis of the areas where foreign collaboration is invited should be linked to the criteria on which royalties and repatriation arrangements are established. The Government and the public and private sector undertakings must work togther as a single unit in such determination of the needed foreign collaboration, its terms and its resultant quality technology and output and the training of local expertise as a normal

precondition. Section 29 of the Foreign Exchange Regulation Act 1973 is a move in this direction. The administering authority, the Reserve Bank, will have to see that the exemptions from the Act given to the foreign companies in the core sector or exporting 60 per cent of their product are not used to defeat the major objective which is to expand production and indigenous capabilities. Above all, the goal of self-reliance calls for the rapid development of our own R&D in the varied industrial and agricultural fields closely linked not to the capital intensive technologies of the affluent countries but appropriate to our factor market and to our production schedule and structure of output and employment that will aim at the removal of mass poverty in the Country.

BOOK REVIEW

A GUIDE TO RESEARCH IN ECONOMICS

Edited by C. T. KURIEN

(Published by Sangam Publishers, Madras, for Madras Institute of Development Studies, 1973)

Price Rs. 30; pages. XV+476

"A Guide to Research in Economics" is four books combined into one. The work contains nineteen articles—five in Part I, seven in Part II, four in Part III and three in Part IV. Part I deals with 'the problem', Part II with 'analytical tools', Part III with 'data basis' and Part IV with 'issues and procedures'. All the articles, except the first, which is written by way of Introduction, served as background papers for two workshops on Research Methodology organised at two different locations and at two different periods of time.

Part I raises basic issues. An overwhelming part of Dr Mathur's article in Part II is in this category. It is not, therefore, surprising that some of the contributions in the subsequent parts, though dealing with entirely different themes, come back to them. They get a prominent place in the Editor's Introduction which tries to give an overall view of the problems of research methodology.

Among the basic issues so raised, the most important one pertains to the relationship between facts and theory. While none takes up the extreme position of facts being collected for their own sake, Dr. Brahmananda takes up cudgels on behalf of theory for the sake of theory unpolluted, as it were, by facts, because link at best between the two is tenuous, often snapped and rarely fully repaired. Concepts and conceptual schemata need only satisfy the requirements of consistency; "the link with empirical reality is only an accident". (page 41). The task of data collections, classification and processing is a laborious prosaic job of such a different type from the imaginative one of perceiving phenomena as a whole in their interdependence, that "there can be no bridge theory and data." (pages. 41—42). One wonders in that case what test would be applied to judge among the validity and relevance of different economic theories, Experiments and operationalism would certainly then have no scope, and there would be no difference between economic theory and economic deductive logic.

None of the other authors who have dealt with this topic has taken this extreme stand. Dr. Gautam Mathur brings out that both theoretical research and applied research are incomplete without each other. It is recognized that there are many factors which make verification of a hypothesis an extremely difficult task. In all economic processes, a large number of variables are at work. Since controlled experiments are ruled out, statistics becomes the main tool for determining their importance. A hypothesis is more easily rejected than accepted. Even

when application of statistical techniques seems to rule out a hypothesis, a careful check may reveal that the experiment has not been carried sufficiently far, or that measurement is defective. "The truth of a conclusion does not necessarily state the truth of premises." (page 30). It is one of the peculiarities of economic science that important concepts like savings bear different meanings in different models. Dr. Kurien gives some striking illustrations of how a simple phenomenon of exchange leads to very different welfare implications when presumed among producers of equal bargaining strength compared with that between labour and capital. Add to these difficulties the possibility of an interdependent economic world in which the value of parameters is constantly changing, and one becomes inclined to agree that even immediately untestable theory may serve the purpose of a filing system, and should, therefore, not be ruled out. (page 85). While these considerations make it difficult to build immediate bridges between economic theory and reality, they do not dispense with the need of doing so and make the job more exciting, though more time-consuming. Concepts come to be evolved, crude to begin with, undergoing continuous improvement there-after under the interaction of facts or data and the query for investigation. For the purpose of measurement, many tools may be borrowed from other disciplines, largely mathematics and statistics. It is at this stage that the continuous process of refining of the concepts and the sharpening of tools go on. Knowledge about the real economic world can be relative, not absolute. But as dialectics would put it, it is "absolutely relative and relatively absolute". Viewed as above, one can assert that the broken bridges no longer are broken; a good amount of traffic can flow on the bridge either way.

At an early stage of development, the equipment of many research students in the disciplines to which they do not belong is weak. With students less equipped but awe-striken by the potency of the tools, many incongruencies then develop, and wrong unwarranted use of sophisticated tools is often found. Many of the defects in the use of statistical tools could be traced to this. This phase has been already passed through in many countries as far as mathematics and statistics are concerned; but sociology, psychology and administration, equally essential in dealing with the social world, are yet unknown or only vaguely known to the economic research worker. The remedy is neither in the divorce nor in estrangement between them; as is rightly emphasised, it is in providing scope and facility for equipping the research workers with right knowledge.

Part II deals with the use of various tools and devices beginning from the wide subject of statistics to detailed specific methods like case study and model building. The "Notes on Benefit-Cost Analysis" by Dr. B. Sarveswara Rao contains useful descriptions of some application of the technique to Indian economic problems. Part III dealing with data basis will be of greater immediate use to students. National Sample Surveys are dealt with in two articles and the Census in one. In Part IV, two of the three articles are on down-to-earth problems of the research student like "*Documentation and Structure of a Ph. D. Thesis*".

The Foreword by Dr. Adiseshiah serves many useful purposes. It brings out the inherent value-laden nature of economic science, the way economic concepts and theories are built up in relation to historical situations, and the need at policy level of *multi-disciplinary or inter-disci-*

plinary approach. Dr. Adiseshiah righly stresses the need for a research methodology course, lack of which has largely contributed along with weakness in economic theory to the present low level of most of our research. There are, however, two observations of his with which I find it hard to agree. Is it any longer true to say that "methodology is not in fashion today" when practically every tenet in economic theory is being increasingly challenged from the view point of relevance, and talks of methological revolution are increasingy in vogue? It is fortunately also not true that the trend volume on Economics Research in India prepared under the auspices of the Indian Council of Social Science Research has no paper on methodology. Decision to include it may perhaps have been taken at the suggestion of Dr. Malcolm himself.

The Guide will be a useful compendium, valuable alike to professional research workers and research students. It may, however, be in order to make a suggestion. When papers are written for being presented on an occasion, one expects a summary of the reaction of other participants as expressed in discussion that took place. Granted that the papers were presented on two different occasions, and, therefore, the ascertained reactions would have been of two different groups to two different sets of papers, this addition would have greatly added to the interest of the Volume. I do not know whether Dr. Brahmananda's and Dr. Mathur's papers were presented to the same group, if they were, it would have been interesting to see how the participants arbitrated between the two.

D. T. LAKDAWALA

Published as required under Section 19D(6) of the P. R. B. Act read with Rule 8 of the Registration of Newspapers (Central) Rules, 1956

MADRAS DEVELOPMENT SEMINAR SERIES

FORM IV

1. *Place of publication*	:	Madras
2. *Periodicity of the Publication*	:	Monthly
3. *Printer's name*	:	Bro. Octavian
Whether citizen of India	:	Yes
Address	:	Director, St. Louis Institute, Canal Bank Road, Adyar, Madras-600020.
4. *Publisher's name*	:	Dr. Malcolm S. Adiseshiah
Whether citizen of India	:	Yes
Address	:	Director, Madras Institute of Development Studies, 74, Second Main Road, Gandhinagar, Adyar, Madras-600020.
5. *Editor' names*	:	Dr. Malcolm S. Adiseshiah
Whether citizen of India	:	Yes
Address	:	Madras Institute of Development Studies, 74, Second Main Road, Gandhinagar, Adyar, Madras-600020.
6. *Name and addresses of individuals who own the Newspaper and partners and share-holders holding more than one per cent of the total capital*	:	Madras Institute of Development Studies, Adyar, Madras-600020, registered as a Charitable Trust under the Madras Charitable Trusts Act.
Trustees	:	Dr. Malcolm S. Adiseshiah Mrs. Elizabeth Adiseshiah

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Date: 10th February, 1973.

Sd./-
MALCOLM S. ADISESHIAH
Signature of the Publisher

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St. Louis Institute Press, Canal Bank Road, Adyar, Madras-600020
Editor : Dr. Malcolm S. Adiseshiah